

A Report to the Minister for the Environment

Waterways of Western Australia

Towards a Management Framework for Rivers and Estuaries

A Partnership Approach to State Waterways Management

*Waterways of Western Australia
Towards a Management Framework
for Rivers and Estuaries*

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**A REPORT PREPARED FOR THE MINISTER FOR THE ENVIRONMENT BY A
STATE AND LOCAL GOVERNMENT SENIOR OFFICERS GROUP**

1994

A Partnership Approach To State Waterways Management

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COMMISSIONER'S FOREWORD

The use of waterways is a traditional right of the community. There are expectations that the resource will be maintained in a good condition for environmental, economic and recreational uses today and for future generations. The Coalition Government has demonstrated its commitment to waterways through its policy to extend the system of waterways management statewide and by directing the Minister to prepare a statewide waterways strategy as a major initiative.

In response to this, the Waterways Commission convened a Senior Officers Group in March 1994 to prepare a report for the coordinated management of Western Australia's waterways. The Group had representatives from the Waterways Commission, Water Authority of WA, the Departments of Conservation and Land Management, Transport, Environmental Protection, Planning and Urban Development, and Agriculture and the WA Municipal Association.

Findings and recommendations in the Report reflect a broad consensus amongst the Senior Officers Group members. This has been achieved through an intensive consultative process over a six month period. During this time comment was also sought from the community representatives on the existing five waterways management authorities and the Swan River Trust.

The major thrust of the Report is to establish administrative and legislative mechanisms and secure funding which will:

sustain and where possible enhance the health and functions of the State's waterways environments and address in a participative way the demands of the community they serve.

The Report will provide a setting for the establishment of coordinated management and conservation of waterways. It will provide explicit direction on these matters for State and local government and the community. The development of a shared vision, cooperation and partnering among stakeholders and the utilisation of existing management structures and processes, will lead to the more efficient and effective management of waterways.

Lack of coordinated management of the State's waterways invariably will result in high environmental, social and financial costs. Implementation of the recommendations in the Report will enable the degradation of a vital natural asset to be addressed actively at strategic and operational levels. Benefits to the environment and community resulting from coordinated management will be very large, relative to the very modest financial outlay required.

*I wish to thank the State and local government senior officers involved in the preparation of the **Waterways of Western Australia: Towards a Management Framework Report** and am pleased to commend it to the Minister for his consideration.*



Noel Robins
Commissioner
Waterways Commission

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Executive Summary

BACKGROUND

This Report describes the outcomes of a consultation process established by the Commissioner for Waterways in May 1994 and involving senior State government and local government representatives. The Report proposes a framework and recommendations for the future management of waterways in Western Australia.

The formation of the Senior Officers Group was the consequence of a Cabinet directive in 1993 to prepare a coordinated management framework for the State's waterways. Underpinning this decision was a commitment to waterways as a finite State resource with very important environmental, social and economic values for the community.

A number of increasingly urgent needs continue to drive the establishment of a statewide waterways management framework. Included are:

- the need to respond strategically to growing concerns about the health of rivers in various parts of the State;
- the need to make explicit the scope, jurisdiction and responsibility for aspects of waterways management;
- the need to establish an identifiable coordinating body for statewide waterways management responsibility; and
- the need to consider in advance the existing shortfalls in funding for waterways management programs and community demands for an expanded service.

The Senior Officers Group met formally on eight occasions over a period of six months. The Group's Terms of Reference are listed below. They specifically related to the development of a Statewide Waterways Management Framework:

- develop the Vision, Principles and Objectives for statewide waterways management;
- review current administrative arrangements and their adequacy, including their scope, to manage waterways in WA;
- assess and report on the human and financial resources required to effectively achieve the vision for a statewide waterways management framework;
- review the adequacy of existing legislation in meeting a statewide approach to waterways management; and
- recommend administrative and legislative changes necessary for a statewide approach, including links to integrated natural resource management and water resources management.

Each State in its own way is attempting to consolidate and better coordinate waterways management. Ecologically sustainable development principles and the importance of management flexibility and responsiveness to local contexts are implicit across the board. It is also a widely held view that the future direction of waterways management requires extensive consultation with stakeholders.

Consultation has been continuous in all aspects of the development of this Report with the emerging contents and recommendations reflecting the broad consensus of the participants. Staff of the Waterways Commission and the Boards of Management of the five regional Waterways Management Authorities have all been regularly briefed on the developments arising from the Senior Officers Group and have had an opportunity to provide input to the reporting process.

FINDINGS AND RECOMMENDATIONS

All of the recommendations consolidated below are also to be found in the chapters of the Report along with expanded background information, rationale, details of the Statewide Waterways Management Framework and, in some instances, more specific proposals.

THE VISION

The vision for Western Australian waterways is for them to be maintained in a healthy state and to be effectively managed through processes which involve the Government and the community working together.

Healthy waterways are ecologically diverse, productive and resilient with a capacity to provide for environmental, economic and social values. Through good management, waterways need to be supported, safeguarded and, where practicable, improved. Management needs to be focused on the waterway and the surrounding environment linked to the waterway. There should be strong involvement of waterways management bodies in any activities in catchments which may affect the health of the waterway.

For a Statewide Waterways Management Framework to be successful, there is a need for long term active involvement and support from all stakeholders; and, ideally, bipartisan backing. In addition there might also be the requirement for some fundamental shifts in values and organisational culture for some groups and individuals in order to ensure the coordination, cooperation and partnering essential for the achievement of the vision.

RECOMMENDATION 1

That waterways management decision making at State / regional and basin / local levels be guided by and consistent with the agreed vision, guiding management principles and primary objectives detailed in this Report (chapter 2).

THE SCOPE OF WATERWAYS MANAGEMENT

The scope of waterways management is broad and complex. Carefully crafted administrative and legislative arrangements will be needed to manage the in-situ values of waterways and their relationship to associated catchments.

Efficient and effective statewide waterways management beyond the year 2000 will require an explicit, shared understanding of the scope of the task, strong leadership, coordination and partnering amongst the key public and private stakeholders, as well as prudent resource management.

Statewide management of waterways must be flexible, responsive and multi-levelled. It should incorporate hands-on local community work; State and regional coordination; and strategic input to broader State and national water and integrated natural resources issues and developments.

RECOMMENDATION 2

That the specific waterways management responsibilities identified in the Report be used in the future by State government agencies and local government as a basis for the establishment of administrative arrangements, waterways cooperation and partnering agreements aimed at enhancing the efficiency and effectiveness of statewide waterways management (chapter 3).

ADMINISTRATIVE ARRANGEMENTS

Statewide waterways administrative arrangements for the future must be founded on a philosophy of building on existing structures and processes to establish efficient and effective statewide management. The key to this will be a shared vision, coordination and active partnerships amongst stakeholders.

Statewide coordinated waterways management should vest in a single agency the legislative authority and administrative capacity to coordinate management throughout the State. This in no way overrides waterways, water resources, or catchment management related functions carried out by other bodies. On the contrary, it serves to strengthen management within existing management areas. It will enable management in those areas not currently proclaimed as management areas, and facilitate partnership agreements and formal links with the other groups identified as having responsibilities.

RECOMMENDATION 3

That the State Government take action to establish within a single agency statewide responsibility and accountability for ensuring effective coordination of river system planning and management, with particular reference to in-stream values and uses. Responsibility for the planning and management of particular rivers and river sections can then continue to be undertaken by various lead and support agencies. This responsibility includes involving the community at all levels (chapter 4).

RECOMMENDATION 4

That priority be given to extending the role of the Waterways Commission to carry out this statewide role of coordinating planning and management of in-stream values and uses of whole river systems, including the ability to influence those factors in catchments that impact on waterways (chapter 4).

LEGISLATIVE REQUIREMENTS

The problem with the existing *Waterways Conservation Act 1976* is that, in effect, it only permits intervention and management in proclaimed Management Areas and then only through the appointment of a Management Authority. What is needed is the ability to manage waterways throughout the State through arrangements that are appropriate to the waterway and its particular problems.

The review of legislative requirements and the creation of a new Act is a pivotal component of a waterways management framework for all of Western Australia. The revision of the Act will be:

- a. **Enabling**, rather than prescriptive, by providing opportunities for more extensive local government and community participation in waterways management through State coverage and flexible management arrangements; and
- b. **Strategic**, by providing clear guidance for the management of the State's waterways in a coordinated and integrated manner and as part of the Government's overall approach to conserving and managing the State's natural resources on a sustainable basis.

RECOMMENDATION 5

That a new Waterways Conservation and Management Act be established to provide statutory backing for statewide waterways management. This Act should be based on drafting instructions which incorporate the legislative proposals contained in the Report and various other relevant parts of the existing Act (chapter 5).

Important legislative proposals relate to the creation of a waterways management Charter; extension of the powers of delegation; provision for more flexible regional waterways management; expansion of referral procedures to cover all of the State; and, where agreed by Government, extension of planning and development control over water and associated land.

FUNDING REQUIREMENTS

The development of a statewide framework for coordinated waterways management will depend on obtaining a secure funding base to overcome the current shortfall for the existing operations of the Waterways Commission, and to provide support for new statewide responsibilities.

The use of waterway resources is a traditional right of the community which has expectations that such assets will be maintained in good condition. The community's use of waterways for commercial and recreational benefits has considerable economic value.

In view of this, if Government is to fulfil the community's expectations and sustain or increase the value of the waterways resources, then it should examine options for increasing its investment. Funding allocations need to be at a level sufficient to overcome current shortfalls, enable statewide coverage and ensure coordinated management at an ecologically sustainable level.

The funds required to effectively coordinate the management of the State's waterways are in the range of \$13.5m to \$15m per year. This amount is small relative to the economic benefits derived from this natural resource. The amount is small also when compared to the value of the resource to current and future generations of beneficial users. There are a number of potential sources of funding which need to be explored by Government on the basis of establishing, in addition to the existing Consolidated Fund allocation, a revenue base linked to a user pays principle and related to tests of equity, and ease of collection.

RECOMMENDATION 6

That a system of adequate and secure funding be established to support the Waterways Commission in undertaking the proposed statewide responsibility for waterways planning, conservation and coordination in respect to in-stream values and uses, and in consolidating and extending its role in waterways area management (chapter 6).

IMPLEMENTATION

Given Government approval to proceed, implementation of the recommendations in the Report will be coordinated by a new Statewide Waterways Management Body. Some recommendations may be implemented quickly; others will rely on gaining access to the funding required.

A 'phased' implementation strategy will be established leading to a fully costed strategic plan to cover those waterways in the State not presently covered by existing management arrangements. This process will take up to three years and involve ongoing consultation with the public, local government and State government agencies.

1. Background

WHY DO WE NEED A STATEWIDE FRAMEWORK ?

Healthy waterways are central to the existence of most life forms and are vital for our society. The availability of water for consumptive, recreational and conservation values is being threatened by some land uses and pollution in catchment areas.

Waterways degradation has the potential to become a significant factor for limiting growth, through adverse effects on the economy, drinking water supply and the environment, and on activities such as recreation and tourism.

The purpose of this chapter is to establish why it is critical, as we move towards the twenty-first century, to develop an approach for managing the waterways of Western Australia. This Report will go on to systematically outline a statewide framework for waterways management.

With the exception of some river stretches in State forests and national parks, the relationship that exists between waterways and their surrounding environments has been upset by steady development since around the 1890s. The impact has been uneven, yet continuous, and has resulted in the steady clearing of approximately 80% of the natural vegetation in the south-west drainage division (Olsen & Skitmore, 1991).

Clearing, primarily for agriculture but also for mining, secondary industry, urbanisation, transport infrastructure and recreation, is a major determinant of the health of waterways and has contributed to their degradation through (Olsen, 1992):

- loss of riparian vegetation;
- increased salinity;
- erosion of banks and sedimentation;
- pollution with nutrients;
- changes of flow;
- river segmentation;
- introduced flora and fauna; and
- pollution with toxins.

Today, there are persistent concerns relating to salinity, nutrient enrichment and siltation in south-west and southern rivers and estuaries. In the north, increased salinity loads and turbidity in some major rivers are being attributed to pastoral activities. Algal growth in areas such as the Canning and Blackwood Rivers and Princess Royal Harbour have served to focus and raise the level of public debate regarding effective waterways management.

This debate is often very complex as society's demands on waterways can be diverse and interrelated. For example, community groups or individuals may wish to simultaneously maintain a river's environmental and aesthetic values while at the same time have unrestricted access for recreational pursuits. These demands inevitably lead to tensions and a potential for the criticism of administrative arrangements and political processes.

Environmental disturbances, particularly those relating to our waterways, invariably result in extensive media coverage and demands for instant action. While short term, ad hoc solutions may be put in place in response, a statewide strategic framework for the management of waterways must be established for the benefit of future generations.

HOW ARE WE MANAGING WA WATERWAYS NOW?

A number of recent studies have confirmed what was already widely perceived - that many Western Australian waterways are seriously degraded and that there is no clear focus of responsibility for management. This is not a circumstance unique to this State; a recent national survey (WWC, 1994) has found that all States are currently grappling with strategies for better waterways management and coordination with broader natural resource administrative structures.

Since 1989, the direction of waterways management in Western Australia has been shaped by:

- a. the work of the WA Water Resources Council (WAWRC) and the Integrated Catchment Management Coordinating Group (ICMCG) in fostering the broad debate of river management issues;
- b. the preparation of position papers on the state of rivers, a review of legislative and administrative arrangements and the analysis of the use and potential uses of rivers; and
- c. the formation of a joint WAWRC/ICMCG steering committee to run two public river management conferences and deliver a river management briefing paper to Government.

During this period substantial reports have been prepared, notably: Conservation Council of WA (CCWA) 1988, *Wild and Scenic Rivers Protection: Directions for Western Australia*; Environmental Protection Authority (EPA) 1992, *State of the Environment: Western Australia*; Western Australian Water Resources Council (WAWRC) 1992, *The State of the Rivers of the South West* and 1994, *River Management in WA*; and the Public Sector

Management Office (PSMO) 1994, *Review of the Efficiency and Effectiveness of the Waterways Commission*. These reports have provided strong backing for changes in management practices.

Successive State Governments had signalled support for a more coordinated approach to waterways management. The previous Government had a policy to reform waterways management and following release of a discussion paper and public comment, drafting instructions for a new Waterways Conservation Act were prepared. However, these were not given approval for drafting prior to the 1993 election.

Currently, the management of waterways is the responsibility of a number of agencies, authorities, committees and private individuals, with different functions and different priorities, and subject to different legislative guidelines.

State government agencies which have direct interests in waterways management include the Water Authority of WA (WAWA), Environmental Protection Authority (EPA), Department of Conservation and Land Management (CALM), WA Department of Agriculture (WADA), State Planning Commission (SPC), Department of Transport (DOT), and the Waterways Commission (WWC). The only body that has a broad coordinating function is the WWC but this is only for a limited number of declared management areas. Local government authorities, catchment coordinating groups and land conservation district committees are also important 'on the ground' in influencing catchment development.

The Swan River Trust was established in 1989 under its own Act, which gave it overall planning, protection and management responsibility for the Swan and Canning Rivers. The Trust is supported by the staff of the Waterways Commission.

A State interdepartmental committee, the Integrated Catchment Management Coordinating Group (ICMCG), exists to provide coordination of inter-agency policy, objectives and activities for catchment management. In 1990 the ICMCG secretariat became the Office of Catchment Management (OCM) responsible to the Minister for the Environment. The WA Water Resources Council (WAWRC) and the Soil and Land Conservation Council (SLCC) also have broader roles in promoting integrated water resources and land use planning and management.

While such management arrangements have all produced beneficial outcomes for waterways, a number of difficulties remain. Some identified by Morris (1992) include:

- inadequate resourcing for some agencies and authorities with legal responsibility for

waterways management;

- lack of clearly defined jurisdiction for waterways management;
- demise of previous management agencies and some resourcing that did exist;
- different management priorities amongst management stakeholders; and
- the lack of an identifiable and authorised coordinating body for statewide waterways management.

Waterways are generally regarded as a 'community resource' and, with the exception of water supply, no simple user group(s) are easily identified to contribute to management costs.

In conclusion, some waterways are currently covered by comprehensive management plans, notably those managed by the Waterways Commission, those managed as protected water supply catchments or those included in parks and reserves. Many, however, are not managed effectively and coordination between stakeholders with management responsibilities is not adequate.

NATIONAL PERSPECTIVE

Examinations of public sector waterways management arrangements are currently taking place throughout Australia at Commonwealth and State levels. A summary of developments is provided below:

Commonwealth

Most waterways management is a State/Territory responsibility but it has long been acknowledged that waterways management issues cannot be simply handled within the confines of political boundaries.

The Commonwealth can influence the overall direction of waterways management through policies, funding programs, and cooperative action through Ministerial Councils and other bodies.

Through such agencies as the CSIRO, Ecologically Sustainable Development (ESD) is being strongly promoted as a desirable river management philosophy. Papers such as *Towards Healthier Rivers : The Ills Afflicting our Rivers and How We Might Remedy Them* (C'with Environmental Protection Agency, 1992) which was launched by the Federal Minister for the Environment, are being used to stimulate community participation in an emerging national river management approach.

A range of national policies and guidelines will emerge from the National Water Quality Management Strategy. They will emphasise communities working

with government agencies through implementation plans which foster partnerships, environmental values, criteria and guidelines for water bodies.

A major environmental statement by the Prime Minister, also in 1992, included funding for river oriented projects such as the Healthy Catchment program, the Monitoring River Health Initiative and the Waterwatch community based water quality monitoring program.

Victoria

Responsibility for river management in Victoria is constituted under the *Water Act 1989*. Administration of the Act takes place through various water authorities including rural water corporations, local authorities and river management authorities. The arrangement is currently subject to review and rationalisation. The Melbourne Parks and Waterways agency is evolving as an organisation to become the autonomous manager of metropolitan waterways and their environment under a separate Act.

River management authorities do not have a complete coverage in Victoria (covering mainly central and eastern Victoria) and are not necessarily catchment based. *Catchment and Land Protection Legislation* (DCNR, 1993, currently under development) and the formation of a peak advisory body, the State Catchment and Land Protection Council, are proposed.

The Council would facilitate the operation of regional catchment and land protection boards which would coordinate and enlist the support of all natural resource managers in catchments, including river management groups.

New South Wales

State rivers management policy is currently being formulated within the Department of Water Resources. Coordination takes place with the Public Works Department which is responsible for estuary issues. There are a number of parallel initiatives for rivers which generally fit under a broader approach to integrated catchment management. Currently, policies are being established in relation to a number of waterways themes: for example, wild and scenic rivers, riparian vegetation, and wetlands.

Work is also being carried out on a 'state of the rivers reporting structure'. This aims to establish a coordinating framework in which agencies with responsibility for particular aspects of river management can report in a systematic way to an interdepartmental committee.

Recently, reforms aimed at addressing major problems which have led to the degradation of the State's waterways have been set out in a Government White

Paper: *Review of Management, Regulation of Water in New South Wales* (1994).

South Australia

The management of water resources in South Australia has been separated from the Engineering and Water Supply Department and placed with the Environmental and Natural Resources Department.

Twelve months ago a 'strategic goal study' was set in place to establish water resources management for the future. While no State program has emerged as yet, a regional program in the Mount Lofty Range, involving the integration of land and waterways management is under way. There is a management emphasis on local community structures with some metropolitan and rural catchment groups already in place.

Queensland

There is a long term movement towards the statewide coordination of waterways management in Queensland. Three major initiatives have been identified:

- Five pilot programs in integrated catchment management (ICM) have been established. These are community based, focus on whole of catchment issues and are receiving short term resource support.
- River improvement trusts are local bodies established under an Act which empowers them to raise funds, undertake works, give notice to landholders to do, or undo works. They have power of entry and power over the use of land.
- The Brisbane River Management Group has been formed to take a strategic approach to improving the coordination of river management and avoid the need for new and unnecessary approval powers.

Tasmania

The Rivers and Water Supply Commission has prime legal responsibility for river management in Tasmania. The Commission administers the *Water Act 1957* which is currently under comprehensive review.

Major functions of the Commission include river improvement, water resources assessment and allocation. The Commission is separate and autonomous but is linked to the Department of Primary Industry and Fisheries which provides staff support.

Provision does exist for the devolution of river

management to direct beneficiaries under the auspices of local management committees which may be based on catchments.

Currently, a model for integrated catchment management is being considered. This would involve the formation of a statewide structure facilitating the development and implementation of strategic, comprehensive, regional soil and river management programs. These would be aimed at achieving sustainable resource use within an acceptable time frame. Coordination of these regions could be facilitated through a land and water management council.

Conclusion

Each State in its own way is attempting to consolidate and better coordinate waterways management. ESD principles and the importance of management flexibility and responsiveness to local contexts are implicit across the board.

In determining the future direction of waterways management, all States are using or have used extensive consultative processes with stakeholders.

THE WAY AHEAD

If a lasting and effective waterways management strategy is to be developed in Western Australia, it needs to be consistent with broader water resources and integrated natural resource management strategies being developed at both national and State levels. This Report does not address these issues but favours an approach to waterways management that supports the principles of ecologically sustainable development.

An emerging management approach would therefore support a vision of healthy waterways in which management functions and processes protect and enhance water flow, quality and the environment while at the same time balancing the demands for access and development by beneficial users.

In acknowledgment of the importance of natural resource integration, the scope of waterways management needs to include rivers; inlets; estuaries; tidal waters and sea adjacent to any river, or estuary with adjacent land; and artificial channels of concern in terms of their possible impact on the health of the waterway (see WWC Act 1976, 1982).

The options for a statewide waterways management framework need to be tabled and evaluated using a consultative process involving all major stakeholders. Whatever options are adopted, they should build on and strengthen existing management functions through an evolutionary process. A future waterways

management framework needs to grow from a broadly accepted and owned vision and a set of principles for the future of our waterways.

The framework needs to identify a coordinating body with clearly assigned responsibilities and fully resourced at planning and implementation levels. Strong working partnerships also need to be established and affirmed between water and land management agencies and groups.

THE TASK

The formulation of this framework has proceeded, following the Minister for the Environment's agreement that the Waterways Commission form a Senior Officers Group, chaired by Dr Bruce Hamilton, to develop a draft statewide waterways management framework. This initiative had its origins in a Cabinet decision of 27 April 1993, which directed the Minister to prepare a waterways management framework for the State.

Initially the Waterways Commission proposed that the Minister establish a broadly representative Minister's Taskforce to develop and recommend a management strategy. Concurrent events, including a review of integrated natural resource management and water resources management, resulted in that approach being discontinued.

The Minister did agree to the formation of a Senior Officers Working Group to advance the earlier Cabinet directive. The participating officers are listed under acknowledgements at the front of the Report.

The terms of reference for the group were to:

- 1. Develop the Vision, Principles and Primary Objectives for statewide waterways management;**
- 2. Review current administrative arrangements and their adequacy, including their scope, to manage waterways in WA;**
- 3. Assess and report on the human and financial resources required to effectively achieve the vision for a statewide waterways management framework;**
- 4. Review the adequacy of existing legislation in meeting a statewide approach to waterways management; and**
- 5. Recommend administrative and legislative changes necessary for a statewide approach, including links to integrated natural resource management and water resources management.**

There are a number of initiatives currently in progress which are relevant to the development of a statewide waterways framework. The Senior Officers Group was mindful of these and took them into account, when appropriate, during its deliberations. The initiatives include:

- The review of the Swan River Trust Act;
- An independent study into alternative funding sources (Briggs);
- The Future Role of the Water Authority of Western Australia in Water Resources Management : Implications of Accountability and Corporatisation* (P.B. McLeod);
- River Management in Western Australia* Ministerial Discussion Paper (WAWRC); and
- The Waterways Commission Functional Review.

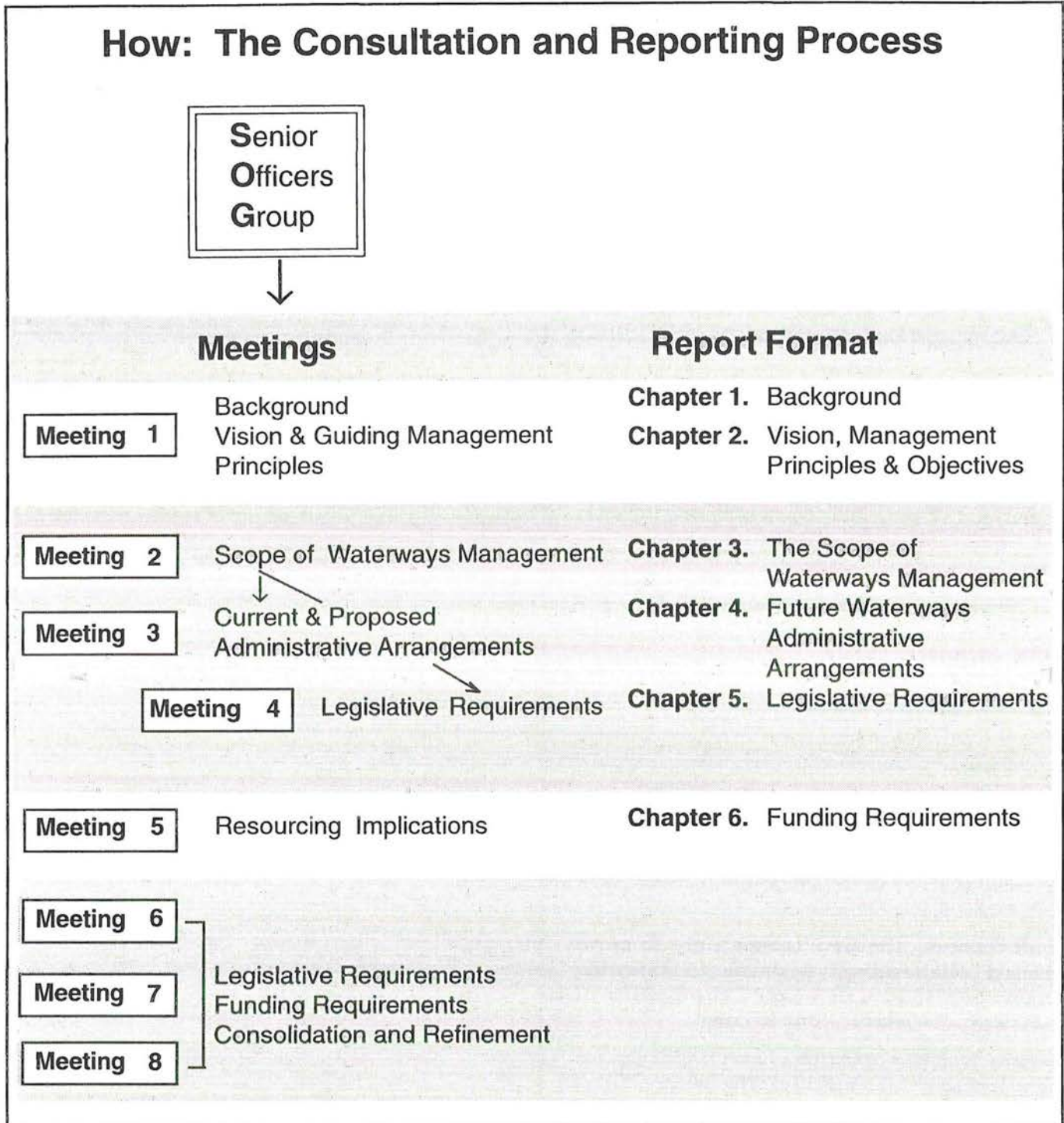
The development of a statewide waterways management framework will present challenges at many levels over the next decade. In a paper presented at a river management workshop in Perth, Hart (1992) concluded that:

- communities will need to articulate environmental values required for river systems and develop ways of working closely with government to modify legislation, improve administrative arrangements and implement management strategies;
- researchers will have the challenge of providing a better understanding of the ecology of river systems and indicators of river 'health'; and
- managers will need a more holistic and flexible management approach with emphasis on closer collaboration with communities and stakeholders.

In all respects, the time is now right to move forward collaboratively to develop a statewide framework that will ensure the health of waterways for generations to come.

Diagram 1. on page 6 outlines how the consultation and reporting process unfolded. The Senior Officers Group (SOG) met formally on eight occasions and followed a meeting agenda linked closely to the agreed terms of reference. The outcomes of the meetings correspond to the contents of this Report.

Diagram 1.



2. Vision, Management Principles and Objectives

WHY START WITH THE VISION ?

Government policy is to extend waterways management to cover the whole State. In April 1993 Cabinet directed the Minister for the Environment to prepare a framework for the realisation of this objective.

The initial challenge for the Senior Officers Group charged with advancing this framework was to agree on a vision, guiding principles and objectives for waterways management. This task was critical, given the pressures of development on waterways and the number of stakeholders with interest in waterways management. A statewide framework based on a shared vision, principles and primary objectives will ensure:

- consistent, clear purpose across State and local government authorities, primary industry, conservation groups and other interest groups;
- a point of reference for all major planning decisions;
- commitment from those within organisations by clearly communicating the nature and concept of waterways management; and
- understanding and support from people 'outside' the process who are important to its success.

Many of the points noted below have been fashioned from workshops and papers touching on this theme in the past few years.

A VISION FOR STATEWIDE WATERWAYS MANAGEMENT

Firstly, 'waterways' will be defined in line with the Waterways Conservation Act as: **rivers; inlets; estuaries; tidal waters and artificial waterways within their associated catchments; and sea adjacent to any river, inlet or estuary.** The placement of this definition within a 'management context' will be discussed in the next chapter.

Waterways are a major resource for the people of Western Australia, and their waters and foreshores are highly regarded because people desire to work, live and recreate near them. However, heavy pressures are placed on waterways and as a result foreshores may be degraded, native vegetation removed and water quality reduced. Current management mechanisms are increasingly unable to resolve problems, many of which are interrelated.

Today, ongoing concerns include insufficient resourcing for agencies or authorities vested with waterways management functions to carry out the

job; lack of clarity as to the geographical and functional scope of waterways management; and the non-existence of an identified lead agency or legislation to ensure a statewide management framework.

Waterways must be managed on a statewide basis in order to balance all of the conflicting demands and provide for the protection of the environment and to ensure benefits for users into the twenty-first century.

An effective statewide management framework must have its origins in a vision for our waterways.

The vision is for Western Australian waterways to be maintained in a healthy state and to be effectively managed through processes which involve the Government and community working together.

In a management sense, this vision translates to a goal for the State's waterways which is to sustain and where possible enhance the health and functions of waterways environments and to address, in a participative way, the demands of the community they serve now and into the future.

In this context, waterways management could be said to describe a range of processes and functions required to protect and enhance waterway flow, quality and environment while at the same time balancing the demands for access and development by beneficial users.

Such activity should be consistent with and contribute to the broader, integrated management of water resources and natural resources in general.

GUIDING PRINCIPLES

A number of important principles provide a foundation to guide the development and implementation of the management framework. Such principles need to stand on their own and also link the vision with primary objectives, which in turn direct decision making processes at State, regional and local levels. A statewide waterways management framework should (not necessarily in priority order):

- enhance the conservation, protection and management of waterways through programs of work and community education;
- provide a coordinating framework for action supported by government;
- identify the sources and scope of the waterways management responsibility of the community and government at catchment, regional and State levels;

- be responsive to local environmental and social contexts;
- rely on communities to lead and participate in the planning and implementation of on the ground works and measures and adopt waterways management practices consistent with sustainable use; and
- provide a mechanism for the ongoing, statewide planning, program implementation and review which fosters efficiency, effectiveness and accountability.

PRIMARY OBJECTIVES

It is critical that the statewide framework leads to positive action 'on the ground'. To facilitate this, primary objectives need to be set to directly guide planning and management processes. Primary objectives can be classified according to their environmental, economic, social or administrative focus, although their 'interrelatedness' is self evident.

The primary objectives of a statewide framework for waterways management are listed below:

Environmental

- to improve the understanding of waterways so that their health can be maintained for a range of uses;
- to conserve Western Australia's natural riverine environments and ecosystems;
- to restore degraded environments to agreed conditions;
- to maintain or enhance river water quality at or to agreed standards;
- to ensure sustainability of use.

Economic

- to identify beneficial users and cater for, manage and coordinate their requirements in line with priorities (although not necessarily with the one waterway).

Social

- to enhance waterways quality and public amenity for the benefit of communities from generation to generation;
- to ensure access for recreation that is consistent with the conservation and enhancement of the resource;

- to increase community awareness of and involvement in waterways conservation and management; and
- ensure that developments or activities affecting waterways are examined in relation to significant Aboriginal sites, as covered by the Aboriginal Heritage Act.

Managerial

- to provide a legislative base, and appropriate administration and resourcing to achieve the primary objectives of the statewide waterways management framework, including:
 - explicit statements about the scope of and responsibilities for waterways management;
 - coordination of management responses to waterways issues linked to catchments; and
 - appropriate legislation, structures and processes needed to bring into effect a statewide framework.

CONCLUSION

The success of the statewide waterways framework will require long term active involvement and support from all stakeholders, and ideally, bipartisan backing. In addition there might be the requirement for some fundamental shifts in values and organisational culture for some groups and individuals - this is the greatest challenge!

Recommendation 1

That waterways management decision making at State/regional and basin/local levels be guided by and consistent with the agreed vision, guiding management principles and primary objectives detailed in this Report.

Diagram 2. on page 9 provides, at a glance, the vision for statewide, coordinated waterways management. It links the vision to a broad management goal, guiding principles, primary objectives and a sample of operational strategies.

Diagram 2.

Statewide Waterways Management Framework

Vision

Western Australian waterways will be maintained in a healthy state and will be effectively managed through processes which involve the Government and community working together.

Management Goal

To sustain and where possible enhance the health and functions of waterways environments and to address, in a participative way, the demands of the community they serve now and into the future.



Amplification

Healthy waterways are ecologically diverse, productive and resilient with a capacity to provide for environmental, economic and social values. Through good management, waterways need to be supported, safeguarded and, where practicable, improved.

Management is focused on the waterway and the surrounding environment linked to the waterway. There should be strong involvement of waterways management bodies in any activities in the catchment which may affect the health of the waterway

Guiding Principles

management decision making must ...

- enhance the conservation, protection and management of waterways through programs of work and community education;
- provide a coordinating framework for action supported by Government;
- identify the sources and scope of the waterways management responsibility of the community and Government at catchment, regional and State levels;
- be responsive to local environmental and social/cultural contexts;
- rely on communities to lead and participate in the planning and implementation of on-the-ground works and adopt waterways management practices consistent with sustainable use; and
- provide a mechanism for ongoing statewide planning, program implementation and review which fosters efficiency, effectiveness and accountability.

Primary Objectives

Broad Strategies (sample)

Environmental

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> improve the understanding of waterways so that their health can be maintained for a range of uses <input type="checkbox"/> conserve Western Australia's natural riverine environments and ecosystems <input type="checkbox"/> restore degraded environments to agreed conditions <input type="checkbox"/> maintain or enhance water quality to agreed standards <input type="checkbox"/> ensure sustainability of use | <ul style="list-style-type: none"> <input type="checkbox"/> conduct environmental investigations and monitor waterways and their drainage inputs <input type="checkbox"/> provide advice on the impact of development and land-use activities on waterways <input type="checkbox"/> monitor the discharge of industrial wastes and advise on the impact of these on the waterways <input type="checkbox"/> enforce pollution control legislation <input type="checkbox"/> execute works to stabilise and protect the foreshores and waterways from erosion <input type="checkbox"/> mechanically harvest and remove excess nuisance weed growth from waterways <input type="checkbox"/> provide support for management authorities, catchment groups and other groups involved in waterways management |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Economic

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> identify beneficial users and cater for, manage and coordinate their requirements in line with priorities (although not necessarily with the one waterway) | <ul style="list-style-type: none"> <input type="checkbox"/> assessment of water resources - quantity, quality, biology <input type="checkbox"/> allocate waterways values <input type="checkbox"/> map water resources |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Social

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> enhance waterways quality and public amenity for the benefit of communities from generation to generation <input type="checkbox"/> ensure access for recreation that is consistent with the conservation and enhancement of the resource <input type="checkbox"/> increase community awareness of and involvement in waterways conservation and management <input type="checkbox"/> ensure that developments or activities affecting waterways are examined, in relation to significant Aboriginal sites, as covered by the Aboriginal Heritage Act | <ul style="list-style-type: none"> <input type="checkbox"/> provide and maintain recreational facilities for the public's use and enjoyment of waterways <input type="checkbox"/> prepare and implement waterways management programs and plans <input type="checkbox"/> process applications for development which may affect waterways and provide advice to planning bodies <input type="checkbox"/> develop policies, guidelines and working agreements for the management of waterways <input type="checkbox"/> monitor and enforce development conditions and regulations <input type="checkbox"/> disseminate information for both public and professionals and provide for public education through a variety of media |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Managerial

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> provide a legislative base and appropriate administration and resourcing to achieve the primary objectives of the statewide waterways management framework. | <ul style="list-style-type: none"> <input type="checkbox"/> develop explicit statements about the scope of and responsibilities for waterways management <input type="checkbox"/> provide statewide coordination of management responses to waterways issues linked to catchments <input type="checkbox"/> draft appropriate legislation, structures and processes needed to bring into effect a statewide framework |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3. *The Scope of Waterways Management*

WATERWAYS MANAGEMENT : A STRATEGIC CONTEXT

The overwhelming opinion of a broad range of stakeholders is that current practices in waterways management are not sustainable either environmentally or economically. This issue has been the subject of discussion for some time and the urgency for resolution is increasing as the health of waterways and their ability to sustain life and meet the demands of a growing number of beneficial users become increasingly uncertain.

A persistent obstacle to changes in management practices which are likely to have a real and lasting impact is the achievement of a shared understanding of the **scope** of the management task. In order to remove this obstacle, we need to undertake a backward mapping approach - that is, to shift our focus from current strategies back to the 'vision' of what it is we hope to ultimately achieve through the effective management of our waterways. On this foundation, the scope of the management framework can be charted.

This chapter will be explicit about the above matters. The administrative and legislative arrangements that would provide the structure and authority for a statewide strategy will be addressed in chapters 4 and 5.

THE VISION : WHAT IS IT WE HOPE TO ACHIEVE THROUGH EFFECTIVE WATERWAYS MANAGEMENT?

Effective waterways management should sustain, and where possible, enhance the health and functions of waterways environments; and address, in a participative way, the demands of the community they serve now and into the future.

The vision for our waterways incorporates a commitment to Ecologically Sustainable Development (ESD), simply defined here as development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. This flags some clear implications for management practices where account must be taken of individual and community welfare, equity across generations, the maintenance of biodiversity and protection of ecological processes.

The sentiments of this vision extend well beyond the function of any one organisation or group; it is vital to the wellbeing of all the State's waterways and all Western Australians. As such, the management framework that emerges from the vision will require broad participation and ownership.

Given rapidly changing political and environmental contexts it is imperative that the thrust of management decision making be justifiable in terms of an agreed vision for our waterways.

WATERWAYS : THE MANAGEMENT CONTEXT DEFINED

As the move towards an Integrated Natural Resource Management (INRM) approach to resource management has gathered momentum, so has the difficulty in defining the management sub-components. Some would even argue that such an exercise is counter-productive. Management and political reality suggest, however, that natural resources will continue to be 'compartmentalised' in an administrative and legislative sense.

We need therefore to be pragmatic, with progress towards a statewide waterways management strategy being pursued vigorously while at the same time complementing and linking with broader water resources and INRM developments.

By extension of the definition of 'waterways' provided in the previous chapter, waterways management can be considered at two functional levels:

1. The waterway itself including rivers; inlets; estuaries; tidal waterways; artificial waterways and sea adjacent to any river, inlet or estuary with consideration for management purposes of an area immediately beyond the bed and banks where riparian vegetation or landform is critical to the health of the waterway; and
2. The waterway as it is linked to the activities and processes in the surrounding catchment area where it can be demonstrated that they are impacting on the health of the waterway.

Keeping in mind then, our vision for the health and utilisation of waterways and their links to broader resource management contexts, waterways management could be said to describe:

the range of legislation, management processes and structures required to protect, enhance and sustain waterways flow, quality and the waterways environment while at the same time balancing the demands for access and development by beneficial users.

THE DIMENSIONS OF WATERWAYS MANAGEMENT

Statewide, there is no clear focus of responsibility for waterways management. Some sections of waterways are well managed by single agencies and agencies in partnership, but no management responsibility is assigned, and adequate management is not necessarily undertaken by some nominally responsible managers (WAWRC, 1994). The comments below are therefore futuristic and need to be taken into account in describing the scope of waterways management.

Management processes do not exist in isolation. While this chapter is pitched at a State, strategic level, it is very important to acknowledge and link into local and national management roles.

At a local level, waterways management relates to naturally variable environments, with particular social and economic contexts. Management, therefore, needs to be flexible, responsive and adaptable. Under a statewide waterways management approach local management units will vary in geographical extent and functional capacity.

Local area waterways management needs to operate on two levels. Firstly, in 'on-the-ground' management which protects, preserves and, where necessary, restores waterways in order for them to retain or again acquire their value to the natural environment and human usage.

Secondly, at a local level, a strategic capacity is needed to directly influence State level policy development and planning, statewide priorities, field research and the structure of program evaluation.

Management at the local level must also promote a sense of community ownership for policy and programs and empowerment in terms of resourcing and the authority to 'get on with the job'.

While not easy to define, a **national role** in waterways management exists through the Federal Government's more general ability to develop water resources policy, create awareness of contemporary management practices (e.g. INRM) and in particular provide funding for Commonwealth programs.

Such influences are being manifested through the development and implementation of such initiatives as the National Water Quality Strategy, National Landcare Program and the work of the Commonwealth Environmental Protection Agency. State management strategy for waterways needs to be mindful of national developments particularly as they impact on funding opportunities and 'best management practices'.

From a State perspective, waterways management can also be viewed in levels:

- **Integrated natural resource management and water resources policy and strategy**

Waterways management is a subset of total resources management and water resource management. The full scope of water resources 'business', including management for natural and in-stream purposes and management for withdrawal uses and returns, is outlined diagrammatically in Appendix 1. on p. 50.

A prerequisite for good waterways management is therefore sound strategic planning in terms of ESD, water assessment and allocation, monitoring and assignment of management responsibility. State waterways management needs to be consistent with broader resource planning and be formally placed to influence decision making at an 'across-Ministry' level.

- **Waterways management**

Statewide planning and coordination to address aspects of the use and management of waterways.

- **Implementation**

Management area planning, on-the-ground management and monitoring undertaken by State agencies, local government, management authorities and communities with coordination provided by a designated lead agency.

Waterways management needs to focus on the water body itself but with clear structures and processes to enable linking between levels into broader land management. It should enable communities in their catchments to have real involvement in policy formulation, management and implementation.

FOCUS OF WATERWAYS MANAGEMENT

The list below establishes a general focus for waterways management at local, State and national level:

- **Local**

- ~ on-the-ground waterways protection, preservation and restoration
- ~ contributions to State and local level policy, priority setting and planning, research projects, program evaluation

- **State**

- ~ contributions to interdepartmental policy and strategic planning for INRM and water resources
- ~ statewide planning for and coordination of waterways
- ~ coordination and/or direct management of waterways programs

- **National**

- ~ formulation of national INRM and water resources policy
- ~ leadership and awareness raising relating to 'best management practice'
- ~ program funding.

WATERWAYS MANAGEMENT AND CATCHMENTS : A PHILOSOPHY

Catchment management has become a major issue in waterway conservation in WA in recent years. The widely held current view is that the quality of water entering rivers and estuaries from their catchments is a major factor in determining the health of the waterway.

Today, the Waterways Commission's monitoring activities have been modified to reflect the growing interest in catchment inputs. Resources are now allocated to monitoring both estuaries and their catchments.

Traditionally, waterways management areas have been confined to the main estuarine coastal lagoon, lower reaches of rivers and a limited amount of associated land. However, the current need to integrate catchment management and waterway management is the basis for entire catchments being included in the declared management areas for Albany, Wilson Inlet and the Avon River.

Despite management areas being traditionally confined to the estuarine reaches of the waterways, the Commission has extended its monitoring network into the coastal plain catchment of Peel-Harvey, Leschenault and Swan Canning estuarine systems. The first reason for this is to collect vital information on the quality of water discharging into the estuaries. This information is, firstly, used to assess the success or otherwise of the management strategy that has been put in place for the catchment and how any changes have affected the water quality of the estuary.

The second reason is to provide catchment managers, decision makers and land owners with monitoring information on the quality of water draining from their

land. This enables them to assess the success of specific management initiatives and it also provides an indication of where management initiatives are most needed within catchments.

The Commission believes this approach is most important as it builds a link between waterways management and catchment management. The aim is to bring the waterways management perspective to catchment management. The Commission is also carrying out a monitoring function that other agencies may not have the mandate to do or avoid because it is a low priority.

Land conservation district committees are clearly the main mechanism for undertaking land management improvement on a community scale in agricultural catchments, with the aim of improving on-farm land management. In turn, on-farm land management needs to be put in the context of catchment and waterways management so that the result is sustainable agriculture and healthy waterways. In this context the Commission sees that the Department of Agriculture is the most appropriate department to take the lead in catchment management planning within these catchments, and the Commission would provide a supporting role as agreed in detail on a case by case basis.

It would be inappropriate for the Commission to take a lead role in catchment management planning, particularly for the catchments where the predominant land use is agriculture. This also applies to catchments where the predominant land use may be water resource protection, forest management or nature conservation. In these instances the Water Authority and Department of Conservation and Land Management should be the lead agencies responsible for catchment management planning. Other situations may necessitate other agencies taking the lead.

The Waterways Commission has quite specific powers to control the alteration of the bed or banks of the waterways as a consequence of either development or environmental damage. The powers of the Commission under the Act focus on the water body and its foreshore.

It would not be appropriate or possible in practice in a declared waterways management area for the Commission to apply its powers throughout the catchment. The major function of the Commission is one of coordination and liaison, and the Act places a large emphasis on these functions. However, it is important for the Commission to be seen to have a genuine interest in and commitment to catchment management.

The Commission's preference is that issues like

drainage and clearing control and other modifications to the environment and land use in the catchment should be managed through existing mechanisms but brought together in a catchment management plan. In other words, catchment drainage strategies and land use strategies should be built into a catchment management plan, prepared by a catchment coordinating group and led by the Department of Agriculture.

The Commission does not intend to, nor should it, exercise specific controls over on-farm drainage and clearing or other farm management practices. In the first instance, it is not appropriate for the Commission to override the powers of other agencies, nor does the Commission have the resources to do so.

There may, however, be a need to improve current approaches and practices and this can be done by either direct negotiation, partnering or through the catchment management process.

Since catchment management is a multi-disciplinary or integrated process, a range of policy, planning and management agencies need to be involved as well as land owners and the community. In addition to the management bodies like the Department of Agriculture, Water Authority, CALM and Waterways Commission, the DEP/EPA and SPC/DPUD need to play a strategic role. Local government also has a crucial role through local planning and development controls.

In summary, the Commission's approach to its role within a catchment based management area should focus on the management of the waterway through a locally based waterways management body. It should also provide a supporting role and a waterways perspective to catchment management by assisting other government agencies (especially the lead agency) in the preparation of the catchment management plan.

THE SCOPE OF WATERWAYS MANAGEMENT : ELEMENTS AND RESPONSIBILITIES

When attempting to list the elements central to waterways management, attention needs to be drawn back to the vision for waterways and the definition of the area subject to management. The vision focuses on the maintenance and enhancement of waterways environments and the demands placed upon them by beneficial users. Hence environmental management and related social and economic development aspects

are critical to the brief.

Table 1. *Statewide Waterways Management Hierarchy: Elements and Responsibilities*, which follows on page 14, is an attempt to be explicit about the elements of waterways management, where current responsibilities lie for implementation, and what might be the management and coordination options in the future. New entities such as a Statewide Waterways Management Body (SWMB) and a State Water Resources Body (SWR) are proposed at a conceptual level, as taking on key roles in future waterways management.

Waterways management links to but does not directly encompass broader water resources components such as water supply, drainage and flood plain management. Heritage rivers may be directly included but their management may be undertaken by other bodies.

Conclusion

Clearly the scope of waterways management into the future will be quite broad and complex. Carefully considered legislation and administrative structures will be needed to manage in-stream waterways matters but also enable smooth articulation when issues relate to associated catchments.

Of equal importance will be the development of an ethos which will foster the partnerships, coordination, clarity of responsibility, prudent resource management and leadership essential for waterways management with this scope.

Coordination will be a key element with lead agencies taking more responsibility and providing real leadership. Partnership agreements will become more and more important.

An explicit and shared understanding of the scope of waterways management will be vital in enhancing accountability and the ability of a statewide waterways management body to report on its performance.

Recommendation 2

That the specific waterways management responsibilities identified in this Report be used in the future by State government agencies and local government as a basis for the establishment of administrative arrangements, waterways cooperation and partnering agreements aimed at enhancing the efficiency and effectiveness of statewide waterways management.

State Waterways Management Hierarchy Elements & Responsibilities

Management Elements# ¹	Responsibility# ²		
	Current	Proposed	Leadership (Lead Agency) *partnership
STATE / REGIONAL POLICY, PLANNING AND COORDINATION			
Assessment of Resources <ul style="list-style-type: none"> ◦ assess the condition and status of the State's waterways ◦ establish priorities and objectives for statewide/regional waterways investigations and research ◦ establish criteria and standards for the health of waterways 	WAWA, WAWRC WWC#3 (management areas only) WWC, WAWA, EPA	SWR, SWMB, DOLA (mapping), DOT (hydro. survey) SWR, SWMB SWMB, SWR, EPA	SWMB, SWR* SWMB SWMB
Allocation of Resources <ul style="list-style-type: none"> ◦ allocate water for beneficial uses and environmental values ◦ allocation for heritage, wild and scenic rivers 	WAWA WAWA (as a beneficial use)	SWR SWR, CALM, SWMB	SWR SWR
Development of Policy <ul style="list-style-type: none"> ◦ formulate pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways ◦ develop environmental protection policy for non-point source pollution of waterways ◦ develop planning policy for the use and management of land impacting on waterways ◦ formulate waterways management policies for implementation by management authorities and local management bodies 	EPA (delegated to WWC, WAWA, LGAs) EPA SPC, WWC WWC	EPA, SWMB, SWR EPA, SWMB, SWR SPC, SWMB, SWR SWMB	EPA EPA SPC SWMB
Planning for Sustainability <ul style="list-style-type: none"> ◦ Implement relevant proposals in the State Planning Strategy ◦ develop and implement strategies and planning schemes which include considerations of environmental requirements of waterways and their catchments ◦ ensure that developments adjacent to or likely to directly affect waterways are well planned and managed 	SPC SPC (in consultation with), WWC, LGAs, WAWA WWC, LGAs, SPC, DOT	SPC (in consultation with other agencies) SPC (in consultation with), SWMB, LWMB, LGAs, SWR SWMB, LGAs, SPC, DOT	SPC SPC SWMB

Cont..

<p>Coordination of State Effort in Resource Management</p> <ul style="list-style-type: none"> establish priorities for waterways management, determine key stakeholders and make recommendations on human and financial resource allocation integrate waterways management with catchment management and land use in rural areas ensure catchment management incorporates waterways management needs in rural areas integrate waterways management with catchment management and land use in urban areas liaise with communities, local government, catchment groups and LCDCs and provide opportunities for participation in waterways management coordinate and carry out short and long term planning and projects, for the effective management and conservation of waterways 	<p>WWC (declared management areas only)</p> <p>WWC, WADA, LCDCs, OCM, SLCC, LGAs, CALM</p> <p>WWC, WADA, LCDCs, OCM, SLCC, LGAs, CALM, WAWA</p> <p>WWC, LGAs, WAWA</p> <p>WWC, WAWA, WRC, WADA, OCM</p> <p>WWC, SPC, WAWA, DOT</p>	<p>SWMB</p> <p>WADA, SWMB, SLCC, LGAs, CALM, SWR, SPC</p> <p>WADA, SWMB, SLCC, LGAs, CALM, SWR</p> <p>SWMB, LGAs, SWR, SPC</p> <p>SWMB, SWR, WADA, SLCC</p> <p>SWMB, SPC, SWR, DOT</p>	<p>SWMB</p> <p>SWMB</p> <p>SLCC</p> <p>SWMB</p> <p>SWMB</p> <p>SWMB</p>
<p>Monitoring the State of Resources</p> <ul style="list-style-type: none"> monitor water allocation monitor the health of waterways 	<p>WAWA (Water Resources Allocation Committee)</p> <p>WWC (management areas only)</p>	<p>SWR</p> <p>SWR, SWMB</p>	<p>SWR</p> <p>SWMB</p>
<p>Auditing Overall Performance</p> <ul style="list-style-type: none"> audit the state of waterways management report on performance of waterways management 	<p>WWC</p> <p>WWC</p>	<p>SWMB, SWR, EPA, AG</p> <p>SWMB</p>	<p>SWR, EPA</p> <p>SWMB/AG*</p>
<p>BASIN / LOCAL PLANNING, MANAGEMENT AND IMPLEMENTATION</p>			
<p>Investigations and Criteria Setting</p> <ul style="list-style-type: none"> establish objectives and criteria for systems investigations and the implementation of investigations for waterways management investigations for waterways management: <ul style="list-style-type: none"> waterway flow and water quality; waterways characteristics - (e.g. hydrographic survey, tides) - (e.g. maps, cadastral boundaries) the 'state' of waterways (baseline, change, project change); and impact of catchment activity on water quality 	<p>WWC, WAWA</p> <p>WAWA, WWC, LGAs, HD</p> <p>DOT</p> <p>DOLA</p> <p>WWC</p> <p>WWC, SLCC, WADA, WAWA</p>	<p>LWMB, SWR, LGAs</p> <p>SWR, SWMB, LGAs, HD</p> <p>DOT, LWMB</p> <p>DOLA, LWMB</p> <p>SWMB</p> <p>SWMB, WADA, WAWA</p>	<p>LWMB or SWMB</p> <p>SWMB</p> <p>LWMB</p> <p>LWMB</p> <p>SWMB</p> <p>SWMB</p>

Cont..

<p>Waterways Planning and Development</p> <ul style="list-style-type: none"> develop and promote management programs for whole or parts of waterways ensure sound planning and management, provide advice on developments adjacent to or likely to directly affect waterways provide facilities for commercial and recreational boating simplify and standardise land title rights as they relate to any waterway ensure that management actions which require waterways structures and facilities are well planned, in appropriate locations and designed to suit the surrounding environment 	<p>WAWA, WWC , LGAs, CALM</p> <p>WWC, LGAs, SPC, DOT, WAWA</p> <p>DOT (Coastal Facilities Management), LGAs, WWC</p> <p>DOLA</p> <p>WWC, CALM, DOT</p>	<p>SWR, SWMB, LWMB, LGAs, CALM</p> <p>SWMB, LGAs, SPC, DOT, SWR</p> <p>DOT (Coastal Facilities Management), LGAs, LWMB, SWMB</p> <p>DOLA</p> <p>SWMB, LWMB, CALM, DOT, SWR</p>	<p>LWMB or SWMB</p> <p>LWMB or SWMB/SPC</p> <p>DOT*/LGAs</p> <p>DOLA</p> <p>SWMB</p>
<p>Coordination and Linking</p> <ul style="list-style-type: none"> consult with LGAs, other statutory authorities, bodies representing persons and individuals with an interest in any waterways and land in question integrate waterways management with catchment management and land use in rural areas ensure catchment management incorporates waterways management needs in rural areas integrate waterways management with catchment management and land use in urban areas implement pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways 	<p>WADA, SLCC, DEP, WWC, WRC, SPC (sub divisions and rezoning), DOT</p> <p>WWC, WADA, LCDCs, OCM, LGAs, CALM</p> <p>WWC, WADA, LCDCs, OCM, LGAs, CALM</p> <p>WWC, LGAS, WAWA</p> <p>EPA (delegated to WWC and WAWA)</p>	<p>WADA, SWMB, SPC (sub-divisions and rezoning), DEP, LWMB, DOT, SWR</p> <p>WADA, SWMB, LGAs, CALM, SWR</p> <p>WADA, SWMB, LGAs, CALM, SWR</p> <p>SWMB, LGAS, SWR</p> <p>EPA (delegated to SWMB, LWMB, LGAs and SWR)</p>	<p>SWMB</p> <p>SWMB</p> <p>WADA</p> <p>SWMB</p> <p>EPA</p>
<p>Community Education and Involvement</p> <ul style="list-style-type: none"> provide information and conduct education programs on how waterways can be best managed (e.g. brochures, videos, static displays, waterways education centres) 	<p>WAWA, WRC, WWC, CALM, CCWA, DEP, DOT</p>	<p>SWR, WRC, SWMB, LWMB, CALM, CCWA, DEP, DOT</p>	<p>SWMB</p>
<p>Waterways Protection</p> <ul style="list-style-type: none"> control of point source pollution for in situ interests control of non-point source pollution for in situ interests carry out pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways waterways management for environmental flows and flushing conserve riparian vegetation for stream stability, landscape value and fauna habitat flood plain management, forecasting and advice management and rehabilitation of river beds and banks 	<p>DEP#4 (delegated to WWC, WAWA)</p> <p>WWC, WADA, WAWA, DEP</p> <p>EPA (delegated to WWC and WAWA)</p> <p>WAWA, DOT</p> <p>WWC, WAWA, CALM, WADA</p> <p>LGAs, WAWA, (advisory & invest.), WWC, SPC, SES, Bureau of Meteorology</p> <p>WWC, LGAs</p>	<p>DEP (delegated to SWMB, LWMB, SWR)</p> <p>SWR, SWMB, LWMB, WADA, DEP</p> <p>EPA (delegated to SWMB, LWMB, LGAs and SWR)</p> <p>SWR, SWMB, DOT</p> <p>SWR, SWMB, LWMB, CALM, WADA</p> <p>LGAs, SWR, SPC, SES, SWMB, Bureau of Meteorology</p> <p>LWMB, LGAs</p>	<p>DEP</p> <p>DEP or SWMB?</p> <p>EPA</p> <p>SWR</p> <p>SWMB</p> <p>SWR</p> <p>SWMB</p>

Cont...

<p>Waterways Protection Cont...</p> <ul style="list-style-type: none"> • drainage (discharge to waterways) is well managed, for retention of ecological, economic and social values • flood mitigation construction and maintenance 	<p>WAWA, LGAs (for designated drains-transport functions only), WADA LGAs, WAWA, WADA</p>	<p>SWR, LGAs (for designated drains-transport functions only). SWMB, LWMB, WADA LGAs, SWR, SWMB</p>	<p>SWMB LGAs</p>
<p>Waterways Conservation</p> <ul style="list-style-type: none"> • ensure foreshores reserves for conservation, access and recreation are identified, set aside and managed • provide access for a range of uses of waterways and their foreshores (e.g. commercial, recreational) • identify and conserve aquatic flora and fauna and their habitats in waterways • manage heritage and wild, scenic rivers 	<p>DOLA, SPC, LGAs, WWC, DOT CALM, LGAs, WWC WWC, CALM not determined</p>	<p>DOLA, SPC, LGAs, SWMB, LWMB, SWR SWMB (delegated to LGAs and LWMB), CALM SWMB, LWMB, CALM SWR (allocation), CALM, SWMB/LWMB, LGAs</p>	<p>SPC SWMB SWMB CALM</p>
<p>Waterways Use</p> <ul style="list-style-type: none"> • management of fish resources • management of boating, swimming and diving safety 	<p>DF DOT (marine safety)</p>	<p>DF, SWMB DOT (marine safety)</p>	<p>DF DOT (marine safety)</p>

Notations #

1. Generically grouped. Based on issues identified in 1992 River Management Workshops and River Management in Australia: Issues for the 1990s (Hart, 1992). Not necessarily in any specific order
2. Groups listed are those with some statutory / formal responsibility. The work of land owners and various district and community groups is acknowledged as very important.
3. The Waterways Commission has jurisdiction in designated management areas only.
4. The Department of Environmental Protection has broad responsibility through Environmental Protection Policies. DEP also delegates authority via LGAs, WAWA and WWC.

Abbreviations

AG	Auditor General	OCM	Office of Catchment Management
CALM	Department of Conservation and Land Management	SES	State Emergency Service
CCWA	Conservation Council of Western Australia	SLCC	Soil and Land Conservation Council
DOLA	Department of Land Administration	SPC	State Planning Commission, serviced by the Department of Planning and Urban Development
DOT	Department of Transport (Maritime Division)	SWMB	State Waterways Management Body (conceptual)
EPA	Environmental Protection Authority, serviced by the Department of Environmental Protection	SWR	State Water Resources (conceptual)
FD	Fisheries Department	WADA	Western Australian Department of Agriculture
HD	Health Department	WAWA	Water Authority of Western Australia
LCDCs	Land Conservation District Committees	WAWRC	WA Water Resources Council
LGA	Local Government Authority	WWC	Waterways Commission
LWMB	Local Waterways Management Bodies		

4. Future Waterways Administrative Arrangements

PURPOSE

Chapter 3 looked at the scope of waterways management by definition and in terms of current and prospective management responsibilities for government agencies and local government. **The purpose of this chapter is to address future administrative arrangements for the statewide management of waterways, incorporating these agreed management responsibilities.**

Waterways management does not take place effectively in isolation, therefore broader integrated natural resources and water resources management contexts will also be acknowledged, if not in the same level of detail.

INTRODUCTION

Since 1987 the policy of successive governments, detailed scientific reports, public river management workshops, a River Management Steering Committee Ministerial briefing paper, and the Waterways Commission functional review report have all mentioned the need for changes to management arrangements for the State's waterways.

The current State Government is supportive of a coordinated, strategic approach to waterways management. In 1993 Cabinet directed the Minister for the Environment to prepare a statewide waterways framework.

A recent national survey (WWC, 1994) has found that waterways management policy and practice is under review in each State and at Commonwealth level. Better coordination, organisational flexibility, greater responsiveness to local contexts and the need to form partnerships amongst stakeholders in the management process are themes common across the board.

In this chapter a 'Partnership Approach' will be proposed to meet the needs of waterways management into the future.

THE PROBLEM AND THE OPTIONS

With the exception of comprehensive waterways planning now occurring within the Waterways Commission's Swan, Leschenault, Peel, Avon, Albany and Wilson Inlet management areas, no agency has had a brief for whole river system planning. The fundamental problems are that:

- there is no government agency responsible for statewide planning and coordination - for ensuring that planning is undertaken for aspects or sections of waterways and that such planning is integrated with broader strategies

and programs for waterways systems, water resources and natural resources in general; and

- there is no formal linking of waterways planning into broader catchment planning except for areas managed by WWC and catchment areas protected by WAWA.

The Government would seem to have two basic options for the statewide administration of its waterways. Firstly, a single agency could be created or identified to carry out all waterways management responsibilities. This is not an option that has been embraced anywhere in Australia. It is generally not regarded as feasible or desirable to excise and amalgamate the waterways management responsibilities of the many stakeholders into a single 'super agency'.

Alternatively, Government may wish to build on and strengthen the existing partnership approach, but also provide a clearer focus and mechanisms for the coordination and the integration of waterways management. This general course of action has been promoted in three recent reports:

- ~ *River Management in Western Australia* (WAWRC, May 1994);
- ~ *The Future Role of the Water Authority of Western Australia in Water Resources Management: Implications of Accountability and Corporatisation* (McLeod, 1994); and
- ~ *Review of the Efficiency and Effectiveness of the Waterways Commission* (Public Sector Management Office, Feb. 1994)

A CASE STUDY

Before developing the concept of a partnership approach, a brief waterways management case study will help to demonstrate the complexity of waterways management and the need for State level coordination for aspects not currently being addressed. It is recognised that there is a waterways management authority in the area under discussion. The Leschenault Inlet Management Authority (LIMA), coordinates waterways management in part of the catchment.

The Collie River is the most southerly river in the south-west which is harnessed by a large State owned dam, the Wellington Dam (Olsen & Skitmore, 1991). Most of the river is on the Darling Plateau extending east to Darkan and south towards Boyup Brook.

Past clearing in the eastern part of the catchment affected river salinity causing high salinity levels in Wellington Reservoir, but reforestation programs are aimed at reversing that process. Tributaries flowing

through forests have fairly well preserved riverine habitats; however, in cleared areas loss of riparian vegetation, bank erosion and nutrient pollution are widespread.

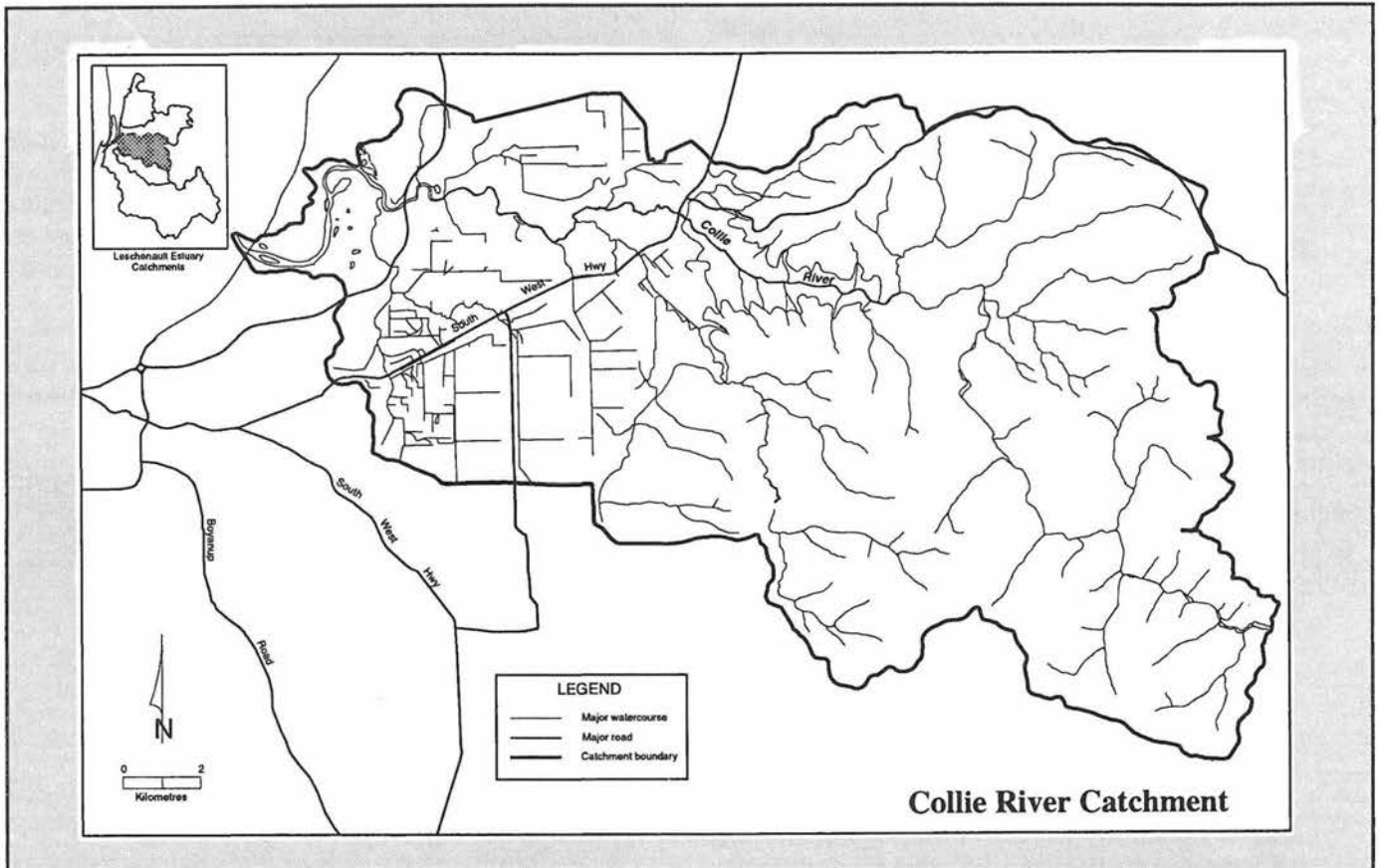
Ground water pumping to de-water open cut coal mines may also impact on the water table and summer pools in the southern branch of the Collie River.

That part of the river winding through picturesque forest down the Darling Scarp is popular for a wide range of recreational pursuits and pressures from overcrowding in popular spots can lead to degradation of river banks.

potential. WAWA has also established recreational facilities at the dam site and water based recreation in lakes filling old open cut mines.

The Water Authority, through its Water Resources division, assesses water quality and quantity. Allocation for environmental purposes and consumption is supervised by the Water Resources Allocation Committee. The Water Authority is also responsible for the water supply catchments of the Wellington and Harris Reservoirs, and the management of ground water and mine de-watering in the Collie Coal Basin.

MAP 1. COLLIE RIVER CASE STUDY: CATCHMENT MAP



West, across the coastal plain, the Collie is joined by the Brunswick and Wellesley Rivers before emptying into the Leschenault Estuary. Nutrient pollution and algal blooms, common to waterways sourced from intensive farming areas, are being detected. The estuary itself is subject to constantly growing residential, commercial and recreational pressures.

A number of agencies, individually and in partnership, are involved with managing aspects of the Collie River. Historically, the now defunct Public Works Department enlarged the waterway through the town of Collie to reduce the impact of flooding. The Water Authority (WAWA) manages clearing control legislation and has planted 7000 hectares of trees for salinity management. Some have commercial

In the rural catchment lands east of the Wellington Dam, the Collie Land Conservation District Committee (LCDC), supported by the Department of Agriculture, coordinates Landcare and its contribution to waterways management.

The Collie River below Wellington Dam carries irrigation water to a diversion structure at Shenton's Elbow.

Above the scarp, the Department of Conservation and Land Management (CALM) manages the catchments of the State forest areas. CALM manages the access through State forest to the Collie River, develops recreation sites in consultation with the LIMA, with some funding from LIMA, and maintains the sites.

CALM has also developed a number of sites above the dam wall around Wellington Dam. CALM is promoting the development of plantation forestry which will have benefits for water quality.

The coastal plain section of the river has been extensively modified by drainage for agriculture. The drainage and irrigation areas have been the responsibility of the Water Authority but local government authorities and land holders are now playing a greater role. Environmental values of the area are receiving recognition with the Waterways Commission, the Water Authority and the Department of Agriculture promoting the 'Living Streams' campaign.

The lower reaches of the river and the Leschenault Estuary are managed by the LIMA (Waterways Commission). This is done in close liaison with other government agencies, local government authorities and the community. Groups not previously mentioned include: Leschenault Catchment Coordinating Group, Dardanup and Wellesley LCDCs, Farmers Federation, producer groups, City of Bunbury, Shire of Dardanup and Shire of Harvey.

The Water Authority has mapped flood plains on the Collie and Preston Rivers. Levees have been constructed for flood prevention and the Water Authority would like local government to assume responsibility for these.

Some strategically important gaps remain in this complex picture of the management of the Collie River system and require broader coordination:

- a. Coordinated management of the river for in-stream values above the Wellington Dam needs to be considered. Issues of concern include: protection from stock access, revegetation of river banks, bank erosion and algal blooms (Collie town site);
- b. Exclusion of some areas of the catchment from LIMA's jurisdiction (e.g. the Henty Brook subdivision and the area between the Collie and Preston Rivers) means that opportunities to formally advise local government authorities and the Department of Planning and Urban Development (DPUD) on planned developments are reduced;
- c. Responsibility for formal, active management of storm surge barriers and swing moorings in the Leschenault Estuary needs to be clarified with explicit roles and appropriate resourcing being allocated;
- d. Local government and community groups active in adjacent catchments to the south of the Collie River continue to press LIMA and the

Waterways Commission for advisory support for the care and maintenance of their waterways;

- e. Enhancement of the capacity of the Ribbons of Blue program to focus the local community on waterways care and management.

This single case study illustrates that, from a 'systems' perspective, waterways management can be complex and requires effective coordination and partnerships to ensure gaps and overlaps are managed.

Further to this, statewide waterways support for planning and coordination on waterways less complex than the Collie River but which currently have no formal management, is also required.

ADMINISTRATIVE ARRANGEMENTS FOR THE FUTURE

In both a functional and a geographic sense, a large number of lead and support agencies, community groups and individuals are doing an immense amount of work in the management of waterways. **However, management at a range of levels, appropriate to circumstances, needs to be extended to cover the State. Clear coordination strategies need to be established according to sound priorities, roles made explicit and legislation strengthened to ensure outcomes.**

Such practical measures are founded on an underlying philosophy of building on existing structures and processes to establish an effective statewide waterways management framework. The key to this will be a shared vision, cooperation, coordination and active partnerships amongst stakeholders.

A 'partnership approach' is predicated on a shared understanding of the elements of waterways management. Who is responsible and who is to provide leadership and coordination for the various elements? With consensus at this level, formal and informal links can be forged at State agency level.

STATEWIDE WATERWAYS PLANNING AND COORDINATION

Currently there is no agency charged with the responsibility for coordination of waterways management on a statewide basis. What is required is well summed up in two recommendations from the Western Australian Water Resources Council *River Management Paper* (1994). These recommendations have also been endorsed, with minor amendments, by the Senior Officers Group for this Report.

Recommendation 3

That the State Government take action to establish within a single agency statewide responsibility and accountability for ensuring effective coordination of river system planning and management, with particular reference to in-stream values and uses. Responsibility for the planning and management of particular rivers and river sections can then continue to be undertaken by various lead and support agencies. This responsibility includes involving the community at all levels.

Recommendation 4

That priority be given to extending the role of the Waterways Commission to carry out this statewide role of coordinating planning and management of in-stream values and uses of whole river systems, including the ability to influence those factors in catchments that impact on waterways.

In essence, statewide planning and coordination would vest in a single agency, the legislative authority and administrative capacity to coordinate the management of waterways throughout the State. This in no way overrides waterways, water resources or catchment management related functions carried out by other bodies but serves to:

1. enable waterways management for those waterways not currently proclaimed as management areas; and
2. to facilitate partnership agreements and formal links with the other groups identified as having a role relevant to waterways management

The management responsibilities and leadership that would be vested in a State Waterways Management Body (SWMB), such as a modified Waterways Commission, at a State and basin level would include the elements outlined in Table 2. *State Waterways Management Hierarchy - Management Responsibilities* on pages 23-25 of this document.

What emerges from an examination of the waterways management elements outlined in Table 2. is an administrative requirement for a State waterways body with direct and indirect (via local waterways management bodies) functional responsibilities. These would extend across each of the generic management process categories. Specific leadership, planning and coordination would be in areas such as those specified below for the State Waterways Management Body:

State/Regional Policy, Planning and Coordination

ASSESSMENT OF RESOURCES

- assess the condition and status of the State's waterways;
- establish priorities and objectives for statewide/regional waterways investigations and research.

ALLOCATION OF RESOURCES

- establish criteria and standards for the health of waterways.

DEVELOPMENT OF POLICY

- formulate waterways management policies for implementation by management authorities and local management bodies.

PLANNING FOR SUSTAINABILITY

- ensure that developments adjacent to or likely to directly affect waterways are well planned and managed.

COORDINATION OF STATE EFFORT IN RESOURCE MANAGEMENT

- establish priorities for waterways management, determine key stakeholders and make recommendations on human and financial resource allocation;
- integrate waterways management with catchment management and land use in rural areas;
- integrate waterways management with catchment management and land use in urban areas;
- liaise with communities, local government, catchment groups and LCDCs and provide opportunities for participation in waterways management; and
- coordinate and carry out short and long term planning and projects, for the effective management and conservation of waterways.

MONITORING THE STATE OF RESOURCES

- monitor the health of waterways.

AUDITING OVERALL PERFORMANCE

- report on performance of waterways management.

Basin/Local Planning, Management and Implementation

INVESTIGATIONS AND CRITERIA SETTING

- establish objectives and criteria for systems investigations and the implementation of investigations for waterways management.
- investigations for waterways management:
 - ~ waterway flow and water quality;
 - ~ waterways characteristics (hydrographic survey, tides, maps, cadastral boundaries);
 - ~ the 'state of waterways' (baseline, change, project change); and
 - ~ impact of catchment activity on water quality.

WATERWAYS PLANNING AND DEVELOPMENT

- develop and promote management plans for whole or parts of waterways;
- ensure sound planning and management, provide advice on developments adjacent to or likely to affect waterways;
- ensure that management actions which require waterways structures and facilities are well planned, in appropriate locations and designed to suit the surrounding environment.

COORDINATION AND LINKING

- consult with LGAs, other statutory authorities, bodies representing persons, and individuals with an interest in any waterways and land in question;
- integrate waterways management with catchment management and land use in rural areas;

- integrate waterways management with catchment management and land use in urban areas.

COMMUNITY EDUCATION AND INVOLVEMENT

- provide information and conduct education programs on how waterways can be best managed (e.g. brochures, videos, static displays, waterways education centres).

WATERWAYS PROTECTION

- control of non-point source pollution for in-stream interests;
- conservation of riparian vegetation for stream stability, landscape value and fauna habitat;
- management and rehabilitation of river beds and banks;
- well managed drainage (discharge to waterways), for retention of ecological, economic and social values.

WATERWAYS CONSERVATION

- provide access for a range of viable uses of waterways and their foreshores (e.g. commercial, recreational);
- identify and conserve aquatic flora and fauna and their habitats;
- identify and conserve heritage and wild, scenic rivers.

WATERWAYS USE

- management of fish resources

State Waterways Management Body - Hierarchy of Management Responsibilities

Management Elements	# Responsibilities ✓ Leadership ⇔ Partnerships	
STATE/REGIONAL POLICY, PLANNING AND COORDINATION	SWMB	OTHER AGENCIES
Assessment of Resources <ul style="list-style-type: none"> • assess the condition and status of the State's waterways • establish criteria and standards for the health of waterways • establish priorities and objectives for statewide/regional waterways investigations and research 	✓ ⇔ ✓ ✓	SWR ✓, DOLA #, DOT # SWR #, EPA # SWR #
Allocation of Resources <ul style="list-style-type: none"> • allocation for heritage, wild and scenic rivers 	#	SWR ✓, CALM #
Development of Policy <ul style="list-style-type: none"> • formulate pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways • develop environmental protection policy for non-point source pollution of waterways • develop planning policy impacting on waterways • formulate waterways management policies for implementation by management authorities and local management bodies 	# # # ✓	EPA ✓, SWR # EPA ✓, SWR # SPC ✓, SWR # LWMB #
Planning For Sustainability <ul style="list-style-type: none"> • develop and implement strategies and planning schemes which include considerations of environmental requirements of waterways and their catchments • ensure that developments adjacent to or likely to directly affect waterways are well planned and managed 	# ✓	SPC ✓, LGAs #, SWR # LGAs #, SPC #, DOT #
Coordination of State Effort in Resource Management <ul style="list-style-type: none"> • establish priorities for waterways management, determine key stakeholders and make recommendations on human and financial resource allocation • integrate waterways management with catchment management and land use in rural areas • ensure catchment management incorporates waterways management needs in rural areas • integrate waterways management with catchment management and land use in urban areas • liaise with communities, local government , catchment groups and LCDCs and provide opportunities for participation in waterways management • coordinate and carry out short and long term planning and projects, for the effective management and conservation of waterways 	✓ ✓ # ✓ ✓ ✓	SLCC #, WADA #, LGAs #, CALM #, SWR # SLCC ✓, WADA #, LGAs #, CALM #, SWR # LGAs #, SWR # SWR #, SLCC #, WADA # SPC #, SWR #, DOT #

Cont.

Monitoring the State of Resources <ul style="list-style-type: none"> monitor the health of waterways 	✓	SWR #,
Auditing Overall Performance <ul style="list-style-type: none"> audit the state of waterways management report on performance of waterways management 	# ✓	AG # SWR ✓, EPA ✓ AG ✓
BASIN/LOCAL PLANNING, MANAGEMENT AND IMPLEMENTATION		
Investigations and Criteria Setting <ul style="list-style-type: none"> establish objectives and criteria for systems investigations and the implementation of investigations for waterways management investigations for waterways management: <ul style="list-style-type: none"> waterway flow and water quality waterways characteristics - (e.g. hydrographic survey, tides) - (e.g. maps, cadastral boundaries) the 'state of waterways' (baseline, change, project change); and impact of catchment activity on water quality 	✓ ✓ ✓ ✓ ✓	LWMB ✓, SWR #, LGAs # SWR #, LGAs #, HD # LWMB ✓, DOT # LWMB ✓, DOLA # WADA #
Waterways Planning and Development <ul style="list-style-type: none"> develop and promote management plans for whole or parts of waterways ensure sound planning and management, provide advice on developments adjacent to or likely to affect waterways provide facilities for commercial and recreational boating ensure that management actions which require waterways structures and facilities are well planned, in appropriate locations and designed to suit the surrounding environment 	✓ ✓ # ✓	LWMB ✓, SWR #, LGAs #, CALM # LWMB ✓, SPC ✓, LGAs #, DOT #, SWR # DOT ✓, LGAs ✓, LWMB # LWMB #, CALM #, DOT #, SWR #
Coordination and Linking <ul style="list-style-type: none"> consult with LGAs, other statutory authorities, bodies representing persons, and individuals with an interest in any waterways and land in question integrate waterways management with catchment management and land use in rural areas ensure catchment management incorporates waterways management needs in rural areas integrate waterways management with catchment management and land use in urban areas implement pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways 	✓ ✓ # ✓ #	WADA #, SPC (sub divisions & rezoning) #, DEP #, DOT #, LWMB # LGAs #, SWR #, WADA #, CALM # WADA ✓, CALM #, LGAs #, SWR # SWR #, LGAs # EPA ✓, LWMB #, LGAs #, SWR #
Community Education and Involvement <ul style="list-style-type: none"> provide information and conduct education programs on how waterways can be best managed (e.g. brochures, videos, static displays, waterways education centres) 	✓	SWR #, WAWRC #, LWMB #, CALM #, CCWA #, DEP #, DOT #
Waterways Protection <ul style="list-style-type: none"> control of point source pollution for in situ interests control of non-point source pollution for in situ interests 	# (delegated) ✓ ?	DEP ✓, LWMB # SWR # (delegated) DEP ✓?, SWR #, WADA #, LWMB #

Cont...

<p>Waterways Protection Cont...</p> <ul style="list-style-type: none"> • carry out pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways • water management for environmental flows and flushing • conservation of riparian vegetation for stream stability, landscape value and fauna habitat • flood plain management, forecasting and advice • management and rehabilitation of river beds and banks • well managed drainage (discharge to waterways) for retention of ecological, economic and social values • flood plain mitigation construction and maintenance 	<p># (delegated) # ✓ # ✓ ✓ #</p>	<p>EPA ✓, LGAs #, SWR #, LWMB (delegated) SWR ✓, DOT # SWR #, CALM #, WADA #, LWMB # SWR ✓, LGAs #, SPC #, SES #, LGAs #, Bureau of Meteorology # LGAs #, LWMB # SWR #, LGAs (for designated drains-transport functions only)#, LWMB #, WADA # LGAs ✓, SWR #</p>
<p>Waterways Conservation</p> <ul style="list-style-type: none"> • ensure foreshores reserves for conservation, access and recreation are identified, set aside and managed • provide access for a range of viable uses of waterways and their foreshores (e.g. commercial, recreational) • identify and conserve aquatic flora and fauna and their habitats in waterways • manage heritage and wild, scenic rivers 	<p># ✓ ✓ ✓</p>	<p>SPC ✓, DOLA #, LGAs #, LWMB #, SWR # LGAs & LWMB # (delegated), CALM # CALM #, LWMB # SWR (allocation)✓, CALM ✓, LWMB's #, LGAs #</p>
<p>Waterways Use</p> <ul style="list-style-type: none"> • management of fish resources 	<p>#</p>	<p>DF ✓</p>

Abbreviations

AG	Auditor General	FD	Fisheries Department	SWMB	State Waterways Management Body (conceptual)
CALM	Department Conservation and Land Management	LCDCs	Land Conservation District Committees	SWR	State Water Resources (conceptual)
CCWA	Conservation Council of Western Australia	LGA	Local Government Authority	WADA	Western Australian Department of Agriculture
DOLA	Department of Land Administration	LWMB	Local Waterways Management Bodies	WAWRC	WA Water Resources Council
DOT	Department of Transport (Maritime Division)	SES	State Emergency Service	WWC	Waterways Commission
EPA	Environmental Protection Authority, serviced by the Department of Environmental Protection (DEP)	SLCC	Soil and Land Conservation Council		
		SPC	State Planning Commission, serviced by the Department of Planning and Urban Development		

The SWMB would work in partnership with a range of other agencies and groups responsible for servicing additional waterways management areas of concern. Those other agencies and organisations with a very significant waterways management role are identified below. Their leadership functions are taken directly from Table 1 on page 14. Other areas of responsibility listed in the table are also outlined more generally.

State Water Resources

Waterways management is very strongly linked to the broader management of the State's water resources. Waterways systems occupy a primary position within the water cycle which in turn links to environmental, economic and social systems. From a total management perspective, partnerships, linkages and coordination with the provider(s) of water resources management will need to be set in place.

Future arrangements for water resources management are currently under review. A number of proposals, such as those summarised below, are under consideration:

- the formation of an autonomous Water Resources Commission or Allocation Commission answerable directly to the Minister for Water Resources;
- the creation of a separate Water Resources Division within WAWA or a State Water Resources Agency to:

manage the rights and interests of the State in the

- ~ assessment,
- ~ allocation and development planning,
- ~ sustainable use and conservation, and
- ~ protection of water resources
- ~ *and additionally* in the regulation of water utility services standards

provide policy advice to the Minister on all aspects of water resources and water resources services, and

provide appropriate contract water resources services to water utility business (Director of Water Resources, WAWA, July 1994).

One major outcome of the development of a statewide waterways management framework is the provision of clear statements of **scope and responsibility**.

This could provide a basis for the relationships that might emerge between a future SWMB and SWR and provide a basis for partnerships.

Whatever the future organisational arrangements might be in relationship to waterways management,

'State water resources' management involvement would be needed in the areas of:

Leadership

- allocation of water for beneficial uses and environmental values
- allocation for heritage, wild and scenic rivers
- monitoring water allocation
- auditing the state of waterways management
- water management for environmental flows and flushing
- flood plain management, forecasting and advice

Responsibilities (general areas)

Have general responsibilities in ...

- State level assessment of resources, development of policy, planning, coordination
- basin level investigations and criteria setting, planning and development, linking, community education, waterways protection and conservation.

State Planning Commission

The State Planning Commission (SPC) has responsibility for developing urban and regional plans and policies. With reference to waterways management, the SPC will:

Leadership

- develop planning policy impacting on waterways
- implement relevant proposals in the State Planning Strategy
- develop and implement strategies and planning schemes which include consideration of environmental requirements of waterways and their catchments
- ensure sound planning and management, provide advice on developments adjacent to or likely to affect waterways
- ensure foreshores reserves for conservation, access and recreation are identified, set aside and managed

Responsibilities (general areas)

Have general responsibilities in ...

- State level development of policy, planning, coordination
- basin level planning and development, linking, waterways protection and conservation with land use planning.

Department of Environmental Protection

The Department of Environmental Protection (DEP) provides technical and administrative support for the Environmental Protection Authority (EPA). It is responsible for providing advice to the Minister on environmental matters, managing pollution control, preparing statutory environmental policies, and assisting the EPA in environmental impact assessments. The EPA and DEP are important participants in waterways management, directly and indirectly. They:

Leadership

- formulate pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways
- implement pollution abatement or prevention policies for coordinated action by owners, occupiers or controllers of land associated with waterways
- develop environmental protection policy for non-point source pollution of waterways
- audit the state of waterways management
- control point source pollution for in-stream interests
- control non-point source pollution for in-stream users.

Responsibilities

Have general responsibilities in ...

- development of policy, auditing overall performance environment policy
- establishing environmental objectives, linking community education and waterways protection.

Department of Transport

The Department of Transport (DOT), through its Maritime Division, has a statutory responsibility in waterways management. DOT focuses on navigable tidal waters, comprising oceans and estuaries, and on the few non-flowing lakes and dams where boating is permitted. DOT:

Leadership

- provides facilities for commercial and recreational boating
- manages boating, swimming and diving safety

Responsibilities

Have general responsibilities in ...

- State level assessment of resources, planning and coordination
- basin level investigation and criteria setting, planning and development, linking, community education, waterways protection and use.

Department of Conservation and Land Management

Through its Act, CALM must ensure that waterways or sections of waterways vested in the Lands and Forests Commission and the National Parks and Nature Conservation Authority have management plans which are properly implemented. CALM's specific role in waterways management would involve:

Leadership

- managing heritage and wild, scenic rivers

Responsibility

Have general responsibilities in ...

- State level coordination of reserve management
- basin level planning and development, linking, community education, waterways protection and conservation and recreational management

Western Australian Department of Agriculture (WADA) and The Soil and Land Conservation Council (SLCC)

WADA, through the Soil and Land Conservation Act, the Landcare Program, Sustainable Agriculture and the work of land conservation district committees (LCDCs), has an important function where land use activities may affect the environmental health of a waterway.

The SLCC advises the Minister for Primary Industry on all aspects of landcare and soil conservation policy. In this capacity and more specifically through such programs as the Decade of Landcare, it can influence waterways management within broader catchment frameworks. It is increasingly taking a stronger role in landcare and catchment management matters. In summary, WADA and the SLCC can:

Leadership

- ensure catchment management incorporates waterways management needs in rural areas

Responsibility

Have general responsibilities in ...

- State level coordination of resource management
- basin level investigation and criteria setting, linking and waterways protection.

Local Government Authorities

Increasingly, local government authorities (LGAs) are being seen as strategically placed to influence sound environmental management and sustainable development for waterways within their boundaries.

LGAs are becoming involved in waterways management and catchment management, often in conjunction with community groups. LGAs are well represented on Waterways Commission Management Authority Boards.

More specifically, LGAs can contribute to:

Leadership

- providing facilities for commercial and recreational boating
- flood plain mitigation construction and maintenance

Responsibility

Have general responsibilities in ...

- consultation with the SPC, participate in State regional planning and coordination
- basin level investigation and criteria setting, planning and development, linking waterways protection and conservation.

Fisheries Department

The Fisheries Department (FD) is responsible for the management of fish resources in rivers and estuaries for the benefit of the community. This involves

optimising yields for distribution amongst different user groups consistent with the conservation of different species and habitat.

AGENCY RESPONSIBILITY

Being explicit about agency responsibility for waterways management provides a basis for enhanced inter-agency coordination and partnering. Ownership and an understanding of waterways management responsibilities and leadership roles should assist policy development, planning, administration and operations.

A clear statement about waterways management responsibility will not of itself, however, enhance coordination and partnering. Some additional strategies will be required:

- a. The establishment of a peak, integrated natural resources coordinating body to ensure the coordination of State policy and implementation strategy relating to waterways. With strong direction from Government and participation by CEOs and community input, inter-agency 'take up' and sharing of responsibilities will be facilitated.

Matters relating to the identification, establishment and management of heritage rivers, for example, might benefit from direction at this level for relevant agencies.

- b. An education strategy, aimed at raising staff awareness of waterways management responsibilities, interpretation of relevant Acts and aspects requiring inter-agency cooperation and coordination is needed. For example, the application of the Aboriginal Heritage Act in relation to waterways management area planning would have immediate benefits for decision making which may impact on Aboriginal sites.
- c. Administrative 'partnering agreements' between agencies and local government authorities will also be required. In the case of Waterways Administrative Regions, as distinct from Management Authorities, agreements would be required in order to ensure the most effective and efficient waterways management strategy. In the North West catchment basin, for example, agreements would be needed between the State Waterways Management Body, the regional office of the Agriculture Department, the Water Authority and seven local government authorities as to how waterways management within a broader catchment context might be best facilitated.

- d. The development of mechanisms to deal effectively with issues such as mining and industrial development within a context which links closely with the specific waterways managers who might be involved.

More formal statutory arrangements will also be required to complete the administrative picture at the agency level.

Under sections 9 and 10 of the Waterways Conservation Act, amendments will be needed to give the Waterways Commission statewide responsibilities. The Act should provide for a variety of waterways management arrangements appropriate to the local situation with full or partial delegation of powers.

Using the procedures outlined in section 10 of the Act, this might involve extension of the Leschenault Inlet (LIMA) and Peel Inlet (PIMA) management authority areas to better reflect their catchments; consideration of one or two (at a maximum) additional management authorities; and the establishment of 'undeclared administrative areas' in other parts of the State.

Other parts of the Act will require close examination in terms of the responsibilities and powers of the State Waterways Management Body. These include:

- inclusion of a broad Charter for the State Waterways Management Body and its role which is to coordinate the management of waterways together with other groups. The Charter might include statements of objectives and duties;
- powers to delegate (section 22);
- referral mechanisms (section 36);
- the nature and application of management programs (section 35); and
- powers relating to management over waters (section 5).

Details of legislative arrangements will be discussed in chapter 5.

ESTABLISHMENT OF A STATEWIDE WATERWAYS MANAGEMENT BODY

What is needed is the ability for the SWMB to coordinate the management of waterways throughout the State. This will occur at two levels: firstly, in declared waterways management authority areas. This would include the existing five management authorities and the Swan and Canning Rivers. An additional management authority should be considered for the Blackwood River where community support for organised waterways management is

significant.

Under the Waterways Conservation Act, management authorities can be set up for waterways requiring coordinated management, with powers to conserve and manage waterways within their boundaries.

Through their Chairpersons who sit on the Waterways Commission Board, these authorities can influence State level planning and coordination. At the basin level they are actively involved in all management areas either in a lead or supporting capacity (see Table 1 pages 14-17).

Secondly, authority will be needed to provide management and technical advice and limited resource support for the management of all other waterways in the State. Here the intention would be to gradually introduce better management of all the State's waterways through a cooperative, partnership approach with local communities via LGAs, catchment coordination groups and other stakeholders.

Conceptually the State will be divided into regions (Maps 2. - 5., pp. 31-32) based broadly on catchment basins (Appendix 2. page 51) and existing waterways management authorities. **Management will not be forced on local communities or other managing agencies, but through coordination, advisory and resourcing mechanisms established by the statewide body, encouragement will be provided for improved conservation and management of waterways.** As is the case in waterways management authority areas, decision making will be participative and take account of existing work being undertaken by LGAs and government agencies.

Specific waterways management arrangements within regions are not pre-empted here and should, within broad parameters established by the SWMB, be responsive to communities within the regions.

Where practical, waterways administrative boundaries would take account of regional development commission and local government boundaries (Appendix 3. pages 52 & 53).

It would not be efficient to establish formal management authorities with administrative offices throughout the State. Flexibility is needed. Some offices will serve a single catchment while others would have an immediate catchment focus and also service a larger region. For example, LIMA could extend its administrative function to encompass the Busselton Coast Drainage Basin.

It is possible that in some catchments, communities may wish to continue their custodial involvement with waterways through the LCDCs. The SWMB would need to liaise with such groups in order to determine the most efficient and effective arrangement for meeting

the needs of the waterway. Given parameters established by the SWMB, it could be possible for support to continue as occurs under current arrangements.

Management support for declared management areas and undeclared management regions would be determined by the SWMB as for existing projects, i.e. in response to community demand, management authorities, staff, sub- programs, other agencies and government priorities. One possibility could be for more remote areas such as the Kimberleys, North West and Central West Coast to be supported by a regional waterways officer and the central office of the SWMB.

Regional waterways officers could be located in major regional centres such as Kununurra, Karratha and Geraldton. They would work in close liaison with agencies such as the Agriculture Department and the Water Authority and the local government authorities in their regions.

The nature of the tasks would vary according to the regional context, but officers would provide waterways support of a technical and planning nature, participate on committees dealing with waterways and catchments issues and provide a liaison role between communities, regions and the State Waterways Management Body.

Preliminary costings for the location of three waterways officers in regional centres, including on-costs, vehicles and limited project funding would be less than half a million dollars (see chapter 6 - Funding Requirements). This would represent a small outlay for the coverage of all river basins outside the south-west drainage division.

INTEGRATED NATURAL RESOURCE MANAGEMENT

Firstly, as has been outlined in previous chapters, a statewide waterways management framework needs to be part of a broader integrated natural resource management strategy. This issue is being pursued by Government, with Ministers looking to forge an overall strategy.

Secondly, at the community level, existing groups such as catchment coordinating groups, supported by LGAs, local waterways management authorities, industry and conservation groups need to be brought together. This will improve the 'on-the-ground' action required for practical integrated natural resource management. This is very important for effective waterways management.

A statewide waterways framework must complement and support structures and processes developed within the 'top' and 'bottom' layers of management. This will encourage integrated natural resource approaches and the principles of ecological sustainable development.

This chapter does not pre-empt the deliberations of Ministers in respect to such matters, but raises them as important contextual considerations for waterways management.

CONCLUSION

In conclusion, statewide waterways management must be developed within, and linked to, integrated natural resource management arrangements at a state and local community level.

Waterways represent one important aspect of the broader management of the State's water resources. A close working relationship is required between agencies responsible for separate and overlapping aspects of withdrawal and in-stream uses of water.

State waterways coordination needs to be formally established and the scope of responsibility of various agencies and other groups made explicit.

Decision making at a Management Authority or Administrative Region level must be responsive to the needs of State and local communities.

The arrangements outlined in this paper are aimed at the establishment of an administrative framework for statewide waterways management. They do not attend to operational detail. Specific detail needs to evolve over time in consultation with all stakeholders, particularly those on the ground managing aspects of waterways.

Finally, it should be stressed that you cannot 'mandate real change' through administrative arrangements or legislation. The critical ingredients relate to organisational culture, values and attitudes. The successful development and implementation of a partnership approach to waterways management is predicated on these less tangible things. It requires political and bureaucratic will, a realistic time frame, and the human and financial resources needed for real outcomes to emerge.

STATE WATERWAYS MANAGEMENT ADMINISTRATIVE REGIONS

Option 1

A Catchment - Region Framework

Map 2.

1. Swan/Avon
2. Peel
3. Leschenault/Busselton
4. Blackwood
5. South Coast

Management Area Offices

- P-Perth (SWMB Central Office)
- N-Northam
- M-Mandurah
- B-Bunbury
- BR-Bridgetown
- D-Denmark
- A-Albany



Option 1

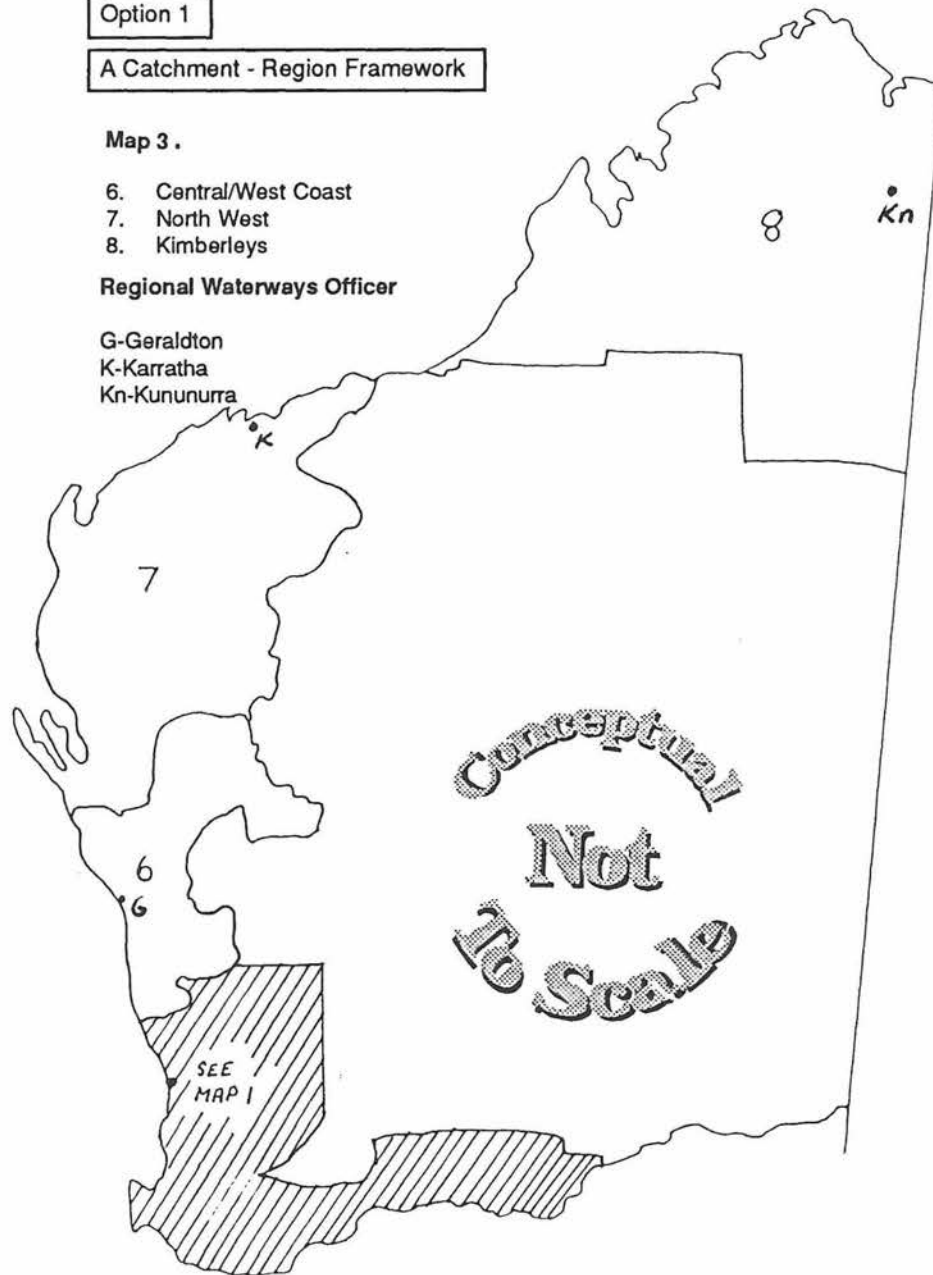
A Catchment - Region Framework

Map 3.

6. Central/West Coast
7. North West
8. Kimberleys

Regional Waterways Officer

- G-Geraldton
- K-Karratha
- Kn-Kununurra



A PARTNERSHIP APPROACH TO STATE WATERWAYS MANAGEMENT

STATE WATERWAYS MANAGEMENT ADMINISTRATIVE REGIONS

Option 2

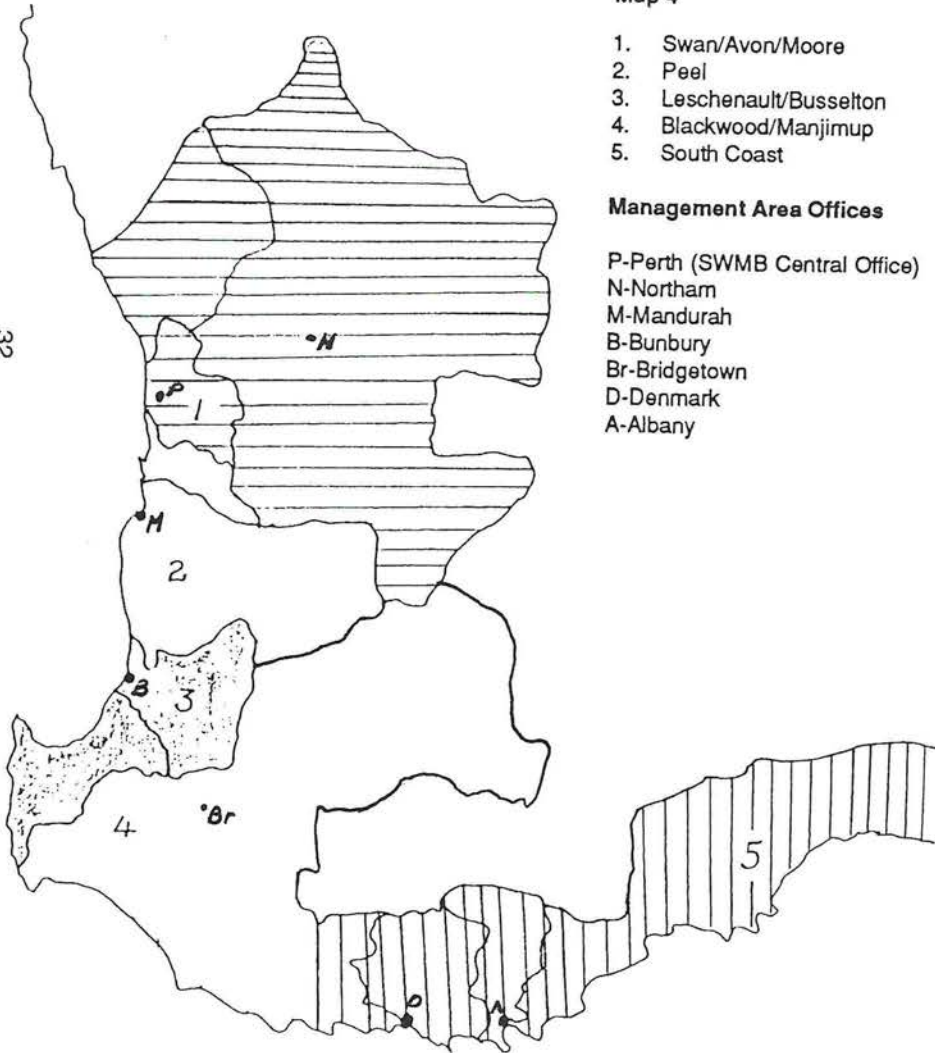
A Catchment - Region Framework

Map 4

- 1. Swan/Avon/Moore
- 2. Peel
- 3. Leschenault/Busselton
- 4. Blackwood/Manjimup
- 5. South Coast

Management Area Offices

- P-Perth (SWMB Central Office)
- N-Northam
- M-Mandurah
- B-Bunbury
- Br-Bridgetown
- D-Denmark
- A-Albany



Option 2

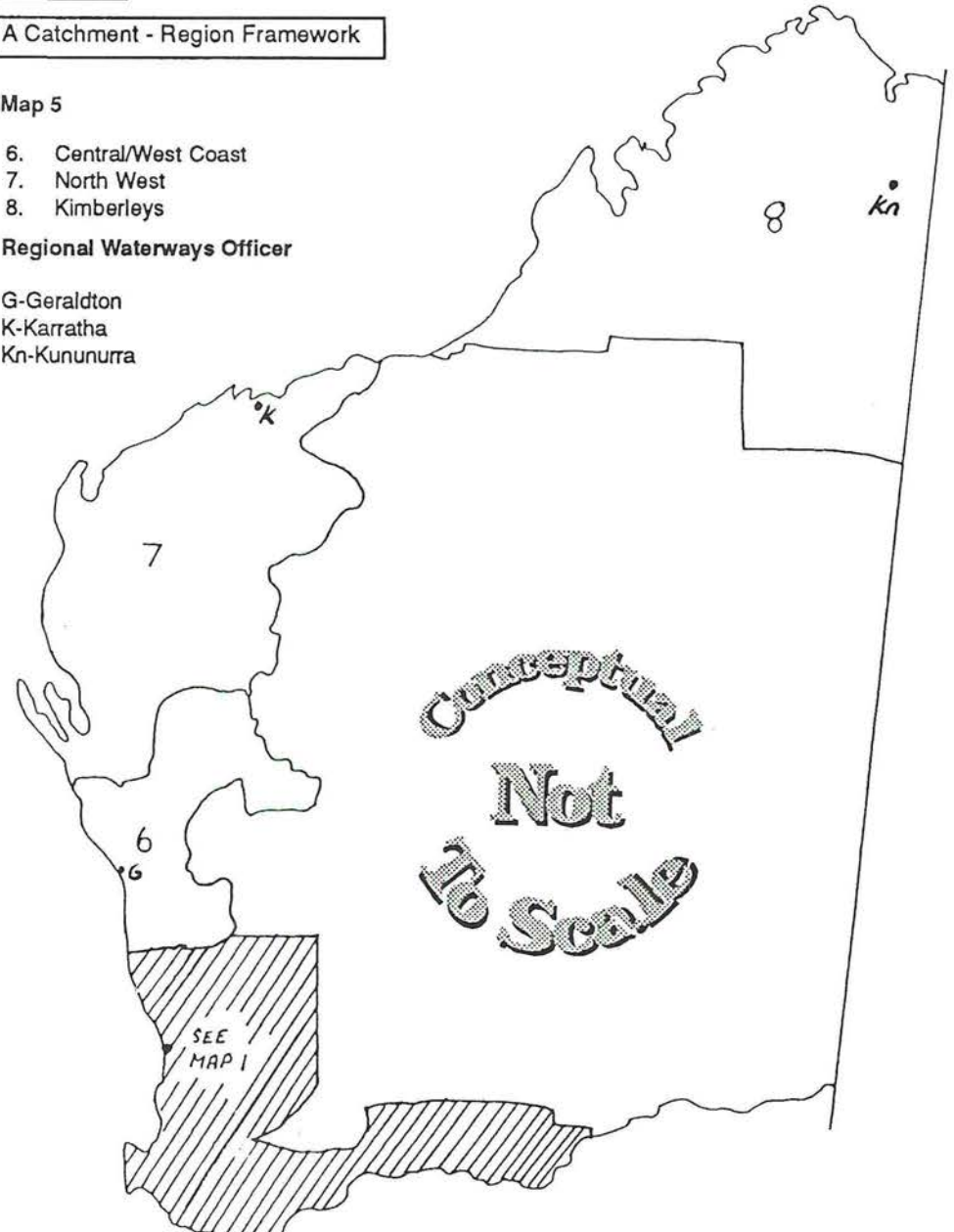
A Catchment - Region Framework

Map 5

- 6. Central/West Coast
- 7. North West
- 8. Kimberleys

Regional Waterways Officer

- G-Geraldton
- K-Karratha
- Kn-Kununurra



5. *Legislative Requirements*

PURPOSE

The prime purpose of the review of legislation is to give it statewide application and to offer a range of management options. The existing *Waterways Conservation Act 1976* only permits intervention and management in proclaimed management areas and then only through the appointment of a Management Authority. What is needed is the ability to coordinate the management of waterways throughout the State through arrangements that are appropriate to the waterway and its particular problems. In nearly all cases this will not require a Management Authority.

The revision of the Act will be:

- Enabling** rather than prescriptive, by providing opportunities for more extensive local government and community participation in waterways management through State coverage and flexible management arrangements; and
- Strategic**, by providing clear guidance for the management of the State's waterways in a coordinated and integrated manner and as part of the Government's overall approach to conserving and managing the State's natural resources on a sustainable basis.

CONTEXT

The review of legislative requirements is a pivotal component of a waterways management framework for all of Western Australia.

Statewide waterways management will occur at two levels. Firstly, five management areas administered by Management Authorities are currently in place. Where all agree coordinated management is needed, additional management areas will be declared. However, it is **not** envisaged that many more areas will require full Management Authorities. The new system will be more flexible as it will allow for management provisions appropriate to the situation.

At the first level, the Act will provide for the declaration of waterways management areas where the powers of the Act can be applied under delegation. Head powers will also provide for the establishment of an accountable management mechanism which could range from the formation of a Management Authority to delegation to an existing body like a local government authority or catchment group.

Secondly, there will be the power for the State Waterways Management Body (SWMB) to provide advice and material support for the management of any waterway in the State. Here the intention is to slowly introduce better management of all the State's

waterways through a partnership approach with local people, particularly local government, taking responsibility and the State Government providing support through the SWMB.

A new Act will provide the statutory backing for the statewide waterways management framework outlined in this Report.

Management will not be forced on local people but incentives and support will be provided, through advice and funding, to encourage local people to improve conservation and management of waterways. In turn, local people will need to meet certain criteria to enter into the partnership where resources are provided from the State level.

Recommendation 5

That a new Waterways Conservation and Management Act be established to provide statutory backing for statewide waterways management. This Act should be based on drafting instructions which incorporate the legislative proposals contained in this Report and various other relevant parts of the existing Act.

The legislative proposals set out below relate only to those aspects of the Waterways Conservation Act that require amendment in order to support the formation of a statewide waterways management framework. Various other parts of the existing Act are relevant and should be retained. Overall the Act needs updating, simplification and clarification.

Drafting instructions which cover the full structure and content for a new Waterways Management Act have been prepared.

1. Interpretation

- 1.1 The definition of "waters" (section 3, p.4 WWC ACT) needs to be altered to read:

"waterways" means rivers; inlets; estuaries; tidal waters; and artificial waterways within their associated catchments and sea adjacent to any river, inlet or estuary

- 1.2 Consequently, amendment 2 of the WWC Act 1982 should be further varied to define "waterways" rather than "waters" and include reference to associated catchments:

(3) For the purpose of the definition of "waterways" in subsection (1) of this section any artificial canal, canal system, lake, lagoon, harbour or embayment connected to a river, inlet or estuary that is in a management area shall be deemed to form part of that river, inlet or estuary if it is -

- (a) within the catchment of that management area
- (b) for the time being declared by the Order in Council defining that management area to form part of that river, inlet or estuary.
- 1.3 The term "catchment" be included and defined in section 3:
- "catchment" means the boundary of a river basin defined naturally by the watershed which separates it from neighbouring basins and that has actual or potential impact on the health and management of any given waterway by virtue of the area from which precipitation drains to collect in waterways. It is the land comprised within the boundaries of a declared waterways management area as defined pursuant to section 10.
- 1.3.1 Following from the acknowledgement that waterways management encompasses waterways within their catchments, as defined above, "associated land" is now redundant and should be removed from the list of terms defined under section 3.
- 1.3.2 Prescribed activities similar to those currently set out in regulations, which may affect the waterway, would apply to the catchment instead of associated land.
- 1.4. A new term "waterways protection area" would define that area of the waterway and associated land where the control of development will occur. Management bodies under the Act would be directed to define this area in the Management Program and it would need approval by Parliament. The Swan River Trust's existing management area would become this area.
- 1.5. The Act should define "development". The definition provided in the Swan River Trust Act has proven to be generally accepted in planning decision making and should be included in the new Act:
- "development" means -
- the erection, construction, demolition, alteration or carrying out of any building, excavation, or other works in, on, over, or under land or waters;
- a material change in the use of land or waters; and
- any other act or activity in relation to land or waters declared by regulation to constitute development, but does not include any work, act or activity declared by regulation not to constitute development.

- 1.6. The Act should provide for a variety of waterways management arrangements to be established appropriate to the local circumstances. This is considered further under 4.
- 1.7. The concept of "beneficial uses" is very important to contemporary understandings of waterways management. They need to be defined in the Act.

"beneficial uses (environmental values)" means particular uses or values of the waterway that contribute to public or private benefit, welfare, safety or health and which have been identified for a particular waterway.

2. Charter

Statutory decision making procedures in waterways management are currently not guided by express statements of relevant principles or purposes to be achieved. Given:

- the number of statutory schemes that currently impact on the management of waterways;
- the need to encourage flexibility in strategic decision making beyond the directions provided by specific sections within the Act; and
- the desirability of having mechanisms that facilitate a higher level of integrated natural resource management.

The inclusion of a Charter or statement of purpose in a new **Waterways Conservation and Management Act** would be beneficial to the statewide coordination of waterways in relation to general principles of resource management and the more specific aspects of waterways management.

A Charter for the SWMB in its management of the State's waterways should be incorporated at the front of the Act. The general principles and objectives listed below could form the basis for such a charter.

2.1 GENERAL PRINCIPLES

- 2.1.1 recognition that conservation and good management of waterways are crucial to the welfare of the people of the State.
- 2.1.2 recognition that government at all levels, industry and the community at large must work together to prevent or minimise further degradation of waterways and rehabilitate degraded waterways to agreed standards.
- 2.1.3 recognition that waterways are a vital part of the natural resources of the State and must be managed as part of an integrated approach to natural resource management for beneficial uses such as drainage, consumption, recreation,

wildlife, tourism and transport.

- 2.1.4 recognition that the conservation and good management of waterways are inextricably bound to good management of the catchments and that a total or integrated approach to catchment management is vital to successful waterways conservation and management.
- 2.1.5 conservation and management of waterways are a vital part of water resources management and the State's land and water care program.
- 2.1.6 wide community involvement is essential for the effective implementation of this Act and in programs designed to conserve or rehabilitate waterways.

2.2 OBJECTIVES

Based on these general principles the SWMB, through the Act, should establish a management system ensuring:

- 2.2.1 the assessment of the condition and status of the State's waterways
- 2.2.2 the establishment of priorities and objectives for statewide/regional investigations and research
- 2.2.3 the development of health criteria and standards for the State's waterways based on ecologically sustainable development
- 2.2.4 the formulation of waterways management policies and guidelines for implementation by management authorities and local management bodies
- 2.2.5 coordination of statewide action in waterways management
- 2.2.6 the prevention of the degradation of waterways wherever practicable
- 2.2.7 the development, implementation and enforcement of programs and plans for the conservation and management of waterways
- 2.2.8 the carrying out of works to conserve the environment, enhance the amenity and where appropriate rehabilitate waterways
- 2.2.9 the regular and effective monitoring of and reporting on the condition of waterways

There should be a duty on the Minister, the SWMB, the various waterways management bodies and all other bodies and persons involved in administration of the Act to work consistently with and seek to further the objectives of the Act.

There should also be a duty of care on the owners of land adjacent to waterways to take all reasonable steps to prevent degradation of the waterways.

3. Delegation

Under a statewide waterways management framework in which flexible, regional management arrangements will be required, the SWMB must be able to delegate (section 22) any or all of its powers as this will be the basis for empowering a range of regional waterways management bodies.

- 3.1. Section 22 (delegation) of the Act needs to be modified to provide for the formation of waterways management bodies other than Management Authorities which can take on powers and duties delegated to them by the Minister or the SWMB.

4. Waterways Management Arrangements

The new Act should provide for the establishment of local waterways management bodies (LWMB) appropriate for local circumstances. A problem with the existing Act is that only a statutory Management Authority can be established with full delegated powers from the Commission.

While this may be appropriate in some situations, there has been a reluctance to have a proliferation of "Authorities" for small waterways. What is needed is the ability to establish Management Authorities and a range of other management bodies appropriate to local situations.

Under a statewide framework, the intention is that a Management Authority would have full delegated powers from the SWMB and act as if it was the SWMB in its management area. Other management bodies would not necessarily have full delegated powers.

Membership of statutory Management Authorities should be as provided in the existing WWC Act but appointment should be by the Minister rather than the Governor. Additionally there should be a statement that members should include those with an interest in and a commitment to the conservation and management of waterways as well as individuals whose activities are likely to affect or be affected by waterways. They are not intended to represent particular interests or groups. Generally they should cover a region based on catchments. Community members could be nominated by the general public or local government and it might be required that vacancies be advertised and nominations requested from local government.

Membership of other types of management bodies would vary to suit the circumstance. Where power is delegated to a local government authority it might be required to form a representative advisory committee.

4.1. The functions and powers of regional management bodies need not be repeated in the Act as they will be delegated by the SWMB in whole or in part. However a general section setting out the role of these bodies as the local management arm of the SWMB and emphasising their close relationship with local government might be appropriate.

Other matters to do with the operations of these bodies such as the power to establish sub-committees, meeting procedures etc, may need to be set out as a schedule of administrative arrangements.

4.2. The wording in the subsections of sections 9 and 10 of the Act be modified to reflect the intent outlined above for the more flexible arrangement of waterways management areas.

4.3. The power of the Commissioner to continue as the 'controller' or 'manager' of an area not currently declared as a management area (WWC Act, 10[2]) should be retained.

5. *Management Programs*

Section 35 of the Act directs that for each waterways management area a management program shall be prepared and sets out the procedures, including consultation, for its preparation. It is intended that the management program for each area should set out the agreed objectives, policies and means by which each waterway should be managed.

A condition for the formation of additional, declared waterways management bodies around the State (other than Management Authorities) should also include the formulation of a management program. Management programs would require Ministerial endorsement.

Undeclared waterways management areas could also be required to prepare management plans as the basis for funding and other assistance.

Guidelines will be prepared by the SWMB to assist waterways management areas seeking 'declared status' and undeclared areas seeking funding support for projects. Such guidelines will enhance quality control and support the fulfilment of SWMB's accountability requirements to Government.

5.1. Subsections be added to section 35 of the Act to clarify the formulation of 'management

programs' and 'management plans' in declared and undeclared waterways areas.

6. *Waterways Assessment, Monitoring and Audit of Overall Performance*

As the lead agency in assessing and monitoring the health of the State's waterways, the SWMB would be required under the Act to have an assessment and monitoring program. These programs would be developed in partnership with the SWR and close consultation with the EPA.

6.1 ASSESSMENT

The Act should require that the SWMB assess the "State of Health" of waterways in terms of established objectives and criteria. This would involve categorising and setting agreed objectives and standards for the State's waterways. Establishment of beneficial use in conjunction with the SWR and EPA would be part of the process. These standards, criteria, indicators and beneficial uses would become the main performance indicators.

6.2 MONITORING

Long term monitoring of the criteria would provide a clear basis for the SWMB to report on how a waterway was performing and would enable the community to have ready access to information. The process would also allow the SWMB to interact in a meaningful way with landowners and bodies responsible for land management so as to influence and change land use practices which would or could lead to degradation of the waterways.

6.3 AUDIT OF OVERALL PERFORMANCE

As the agency accountable for the management of the State's waterways, the SWMB will be required to report to Government on its performance and in turn be subject of official audit by the Auditor General's Office.

The Act should incorporate a new 'Reporting' section requiring the SWMB to report each year to the Minister on the operation of the Act and the carrying out of its functions, including a report on its progress in implementing the objectives of the Act.

This report must include an assessment of the condition and management of the waterways of Western Australia.

7. *Planning and Development Approvals*

Running concurrently with the establishment of a statewide waterways management framework is the statutory review of the Swan River Trust Act. Recommendations from this review are currently being considered by the Minister. There are likely, however, to be three options in terms of the relationship between the review of the Swan River Trust Act and the development of a statewide waterways management framework:

OPTION 1

Retain the status quo for the Swan River and the rest of the State.

OPTION 2

Retain the status quo for the Swan River (with amendments) and provide for statewide control over development in the waterway in declared management areas.

OPTION 3

Incorporate the development/control powers of the Swan River Trust Act into the new Waterways Conservation and Management Act and provide for delegation in any declared management area. This would require a clear definition of the area (e.g. waterways protection area in which the powers would apply).

It is intended that the Minister and the SWMB not override the existing statutory planning and development approval process but that they should have adequate powers to control activities which would detrimentally affect a waterway. On the land, the normal State and local government, planning and development approval procedures should apply, but matters likely to affect a waterway must be referred for advice before a decision is taken by the planning authority. In this respect, sections 36, 37 and 38 of the existing Waterways Conservation Act could remain.

There are two main alternatives for gaining final approval of developments over water or in the defined waterway (the waterway protection area):

- firstly, the final approval for all development including new or changed uses should reside with the Minister as is the case now with the Swan River Trust Act; or
- secondly, the SWMB or the responsible management authority should exercise final approval for developments, with the Minister left unencumbered to resolve disputes or possibly determine appeals.

The choice of alternative lies with Government. However, it is most important that there be a single point of approval for activities in waterways, particularly where a waterway crosses local government boundaries and where there is a multiplicity of interests. There should be a power of delegation to the SWMB or LWMB so that in practice the Minister would only determine significant matters. The area to which this power is applied would need to be defined as it is in the Swan River Trust Act and would normally only cover the waterway itself, although it should be available to cover closely associated land if a Government decides this is necessary.

A key issue is, then, whether this power of approval should apply to all waterways (as defined) in the State or only to those that are declared as management areas. There is value in having the power only apply to declared management areas as there will already be broad agreement that such areas should be managed in a coordinated manner. Also, there may be strong opposition to having broad power apply to all waterways in the State.

The power to control or license certain prescribed activities which could directly affect the banks, bed or waters of waterways that currently exists in the Waterways Conservation Act and its regulations should be retained.

Providing for a reserve power whereby the Minister or the SWMB could 'call in' activities on or abutting any waterway and extending the existing power for the SWMB to provide advice on any development which might affect a waterway, would adequately cover those waterways not declared as management areas.

It is also important to clarify the relationship between the new Waterways Conservation Act and the *Environmental Protection Act 1986*. The latter has general referral and assessment powers for all proposals which may affect the environment and, while there is a good working relationship between the EPA and the Commission, it is important that there be a formal requirement for the EPA to refer any proposal that may affect a waterway to the SWMB for comment. In turn the SWMB or LWMB should refer any matter they believe falls under the scope of the Environmental Protection Act to the EPA, a power which already exists under the *Environmental Protection Act 1986*.

The summaries and Map 6 on page 38 provide an overview of the arrangements proposed for addressing planning and development proposals under a statewide waterways management framework.

Map 6.

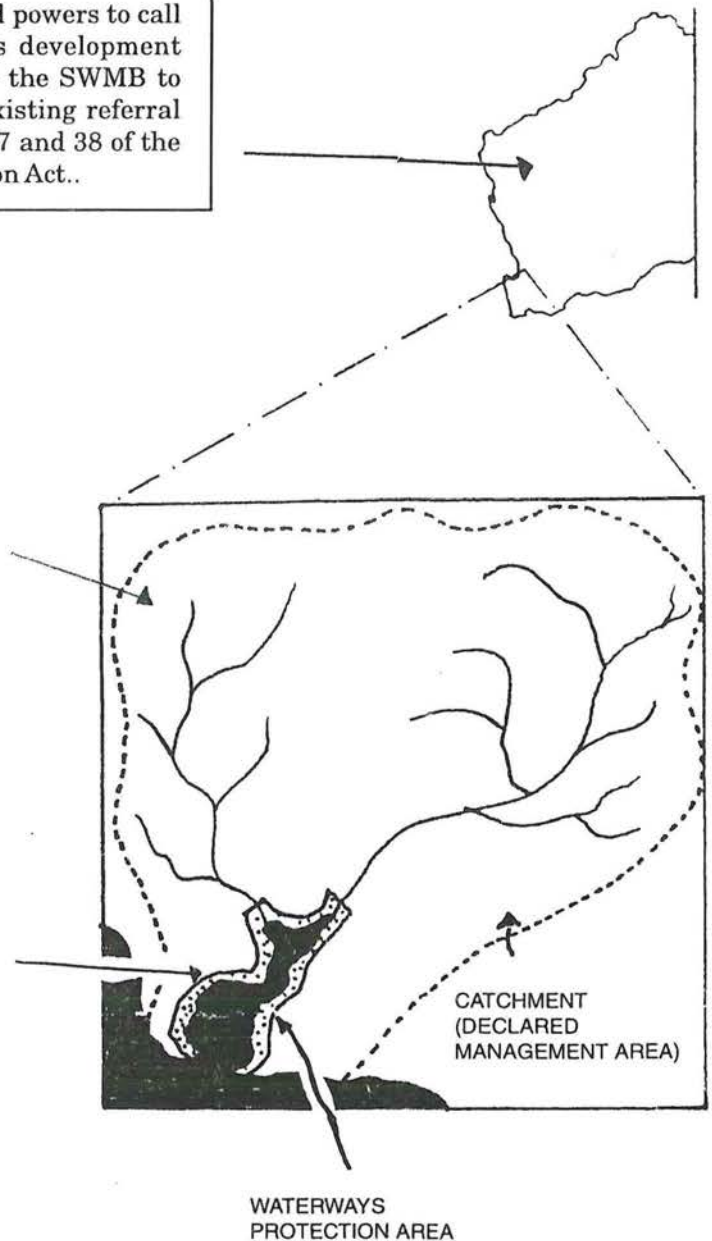
Statewide Waterways Management and Planning / Development Proposals
An Overview

The new Act would provide head powers to call in any proposal for waterways development within the State so as to allow the SWMB to provide advice similar to the existing referral procedures under sections 36, 37 and 38 of the existing Waterways Conservation Act..

Existing referral procedures be retained in declared management areas.

The existing provisions for control of prescribed activities under sections 46, and 48 and regulations 6-17 would still apply in declared management areas. These would be focused on the waterway and its immediate foreshores, as now occurs.

Where agreed to by Government and relevant stakeholders, waterways protection areas could be established in which the Minister or the SWMB has the power to determine development over the water or in the waterway or if necessary on the banks, similar to the existing provisions under Part 5 of the Swan River Trust Act.



The following suggested planning and development provisions are based on the above positions:

- 7.1. Provide a power for the Minister or the SWMB to call in any proposal for a waterway in the State so as to be able to provide advice.
- 7.2. Retain the existing referral procedures under sections 36, 37 & 38 of the Waterways Conservation Act within declared management areas. These powers would still apply to associated catchments but they would be superseded by a new power over the waters if so decided by the Government.
- 7.3. Provide a new power that the approval of the Minister must be obtained for any development over the water or in the waterway (the waterways protection area) in a declared management area (Part 5 of the Swan River Trust Act).
- 7.4. Clarify the relationship to the *Environmental Protection Act 1986* so that any proposal which is to be assessed by the EPA and which may affect a waterway must be referred to the SWMB for comment, and provide for the SWMB's comments to be published.
- 7.5. Provide head powers for the control by the SWMB or its delegated bodies of certain activities in or on the foreshores of waterways similar to the existing Waterways Conservation Act and regulations (sections 46, 48) and regulations 6 to 17.

8. *Financial Provisions*

Waterways management funding over the past years based on Waterways Commission budgets are not commensurate with the protection of waterways resource values as they pertain to existing management areas.

Statewide coverage will require both an increase in Consolidated Funding and the ability to raise revenue from direct and indirect sources. These issues are addressed in the next chapter.

- 8.1 Section 40 of the Act will need to be examined to establish whether current subsections enable the raising of revenue or if an additional clause is required.

A "Waterways Conservation Fund" for the purpose of conserving and rehabilitating waterways should also be established. Specific local government and community group projects focused on waterways management could be funded in a similar manner to the State Landcare Fund. The aim would be to raise funds from revenue, private sources or donations to be used solely for the purpose of conservation,

rehabilitation or improvement of waterways and not for administration. The fund would be additional to normal appropriations.

6. Funding Requirements

BROAD DIRECTION

The development of a statewide framework for coordinated waterways management is dependent on securing a funding base to overcome the current shortfall for the existing operations of the Waterways Commission and to provide support for new statewide responsibilities.

Complementing the development of a statewide waterways management framework by the Senior Officers Group has been an independent study conducted by Mr Ian Briggs from the University of Western Australia backed by a broadly based public/private sector Funding Mechanism Reference Group. Its aim has been to quantify the economic value of waterways to Government and the community, develop some alternative funding mechanism to Consolidated Funding and develop options and recommendations for Government. Findings from the Briggs study have been drawn on for this Report.

JUSTIFICATION FOR INCREASED FUNDING

Funding for statewide coordinated waterways management can be justified in terms of waterways degradation, organisational requirements and revenue (benefits) versus management costs.

Waterways Degradation

As detailed in earlier chapters, there is a need to respond strategically to growing concerns relating to salinity, nutrient enrichment, siltation and foreshore degradation (south-west and southern estuaries and rivers), salinity and turbidity (northern rivers) and algal growth in a number of rivers and estuaries. Persistent degradation in recent years has served to focus and raise the level of public debate regarding effective waterways management. Reports by the Western Australian Water Resources Council have documented the wide extent of the problem.

The Waterways Commission has reached crisis point in its management of its five management areas outside the Swan. Successive budget cuts and increased fixed costs (WWC, 1993) mean vital work such as monitoring the health of waterways and catchments required by statute and rehabilitation work expected by the public is not being done.

Organisational Requirements

While the management framework described in this report is based on coordination, partnering and enhancing efficient and effective use of existing organisational structures, there will be a need for additional funding to provide for projects, staffing,

infrastructure and on-costs necessary for priority programs and to provide a statewide coverage. The total funds required are not large but could be phased in on a three to five year implementation planning time line if required.

The Functional Review of the Waterways Commission (Public Sector Management Office, 1994) conducted under the guidance of Mr McCarrey, and the Water Resources Council, *River Management Ministerial Discussion Paper* (1994) both acknowledged that the Waterways Commission is the most appropriate body to coordinate the management of the State's waterways but would require additional resources to achieve the desired outcomes.

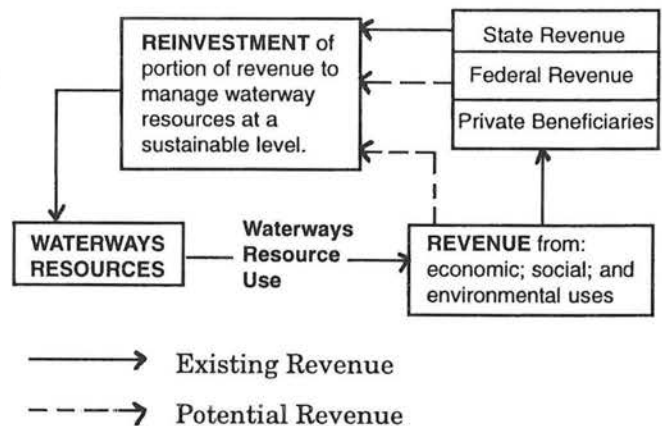
Revenue Versus Management Costs

Use of waterway resources is a traditional right of the community and they have expectations that these resources will be maintained in good condition. The community's use of the resources for commercial and recreational benefits raises significant revenue for the State's Consolidated Fund and there are many other economic benefits to the State from waterways. There are also significant costs.

Currently, revenue from resource use flows to the State Government, the Federal Government and private beneficiaries. Return of this revenue to resource management is only via State allocation from the Consolidated Fund. Other options which would increase funding and provide greater security include Federal funding and direct revenue funding as shown by the " → " arrow in Diagram 3. below.

Diagram 3.

ESTABLISHING A REVENUE BASE FOR WATERWAYS FUNDING



In view of this, if Government is to fulfil the community's expectations and sustain or increase the value of the resources then it should increase its investment in management to a point which

maintains these resources at an ecologically sustainable level.

In conclusion, the Waterways Commission is inappropriately funded to meet the basic waterways conservation and management requirements expected by WA's community. While it is acknowledged that other agencies, local government and community groups do play a role in waterways management, there is a need to ensure that the Waterways Commission, as the 'lead' State management agency, is sufficiently funded to plan for and coordinate the management of the State's waterways in order to sustain and where possible enhance their quality.

FUNDING REQUIRED FOR EFFECTIVE, STATEWIDE WATERWAYS MANAGEMENT

Given that the establishment of a statewide waterways management framework is a 'frontier' endeavour in Australia and that local contextual factors must be taken into account in determining funding requirements, no external models are available for guiding the establishment of the overall funding requirement.

Methodology

The administrative, capital and project costs currently expended by the Waterways Commission and the Swan River Trust in six large and complex waterways can be used as an accurate basis for projecting future funding requirements under a statewide approach.

Overall funding requirements are addressed below using the following methodology:

- a. identifying the current shortfall in funding requirements for the existing work of the Waterways Commission and the Swan River Trust; and
- b. establishing the funding requirement for the implementation of a statewide waterways management program.

Current Waterways Management Arrangements - Funding Shortfall

Using 1994-5 budget calculations, the 'required budget' figure of \$9m for the Waterways Commission and Swan River Trust included allocations for salaries, capital and non-discretionary expenses plus the budgetary requirements for all projects necessary for a minimum level of effective management. This amount exceeded the actual allocation for 1994-5 of \$6.7m (not including \$750,000 funding for the WA Estuarine and River Foundation).

The **\$2.3m shortfall** represents the additional funding the Waterways Commission needs to effectively coordinate the management of the Swan-Canning Rivers and the existing waterways management areas of Peel, Albany, Avon, Leschenault and Wilson Inlet. The Waterways Commission is in a situation where it is seriously under funded and cannot carry out vital work such as the monitoring of the health of waterways and catchments required by statute, let alone any rehabilitation work expected by the public.

For adequate management a number of projects can no longer be deferred, and cannot be carried out by further reordering of priorities. These projects include:

- ~ increased weed harvesting in the Peel Estuary following the opening of the Dawesville Channel;
- ~ water quality monitoring and catchment monitoring at Albany and Leschenault; and
- ~ algal surveys at Albany.

Statewide Funding Requirements

Two models were used to establish the statewide funding requirement (details of calculations are available). Firstly, base level waterways management costs were defined for a hierarchy of river categories. An aggregate management cost was then determined for all rivers in the State by allocating each river to a category. Using this approach, the total budget requirement for the management of all waterways, would be **\$13.55m**. In practice, funds would actually be allocated for waterways projects on a priority basis.

The second model was a catchment/ region model based on waterways management costs per square kilometre for managed waterways, extended to south-west catchment basins not currently receiving management support. This was linked to the cost of declaring one additional management authority and adding in the costs of management from the first model for the rest of the State. Including the Swan River Trust area and all declared management areas in the south-west and undeclared management areas in the rest of the State, the total budget requirement to provide statewide waterways management would be **\$15m**.

SUPPORTING A STATEWIDE FRAMEWORK

The implementation of a statewide approach will involve a regional structure which will require:

- the extension and establishment of declared management areas where powers under the Act

can be delegated

- meaningful support for a whole of catchment management approach
- flexible management structures appropriate to local situations
- provision of advice and support for undeclared parts of the State
- establishment of partnership agreements with local government authorities and government agencies to cover areas of the State where a full time SWMB person may not be justified but other agencies have regional officers and expertise.

Funding to support the statewide, coordinated management of waterways would also enable the establishment of a "Waterways Conservation Fund". Such a fund would support specific local government and community group projects focused on waterways management and could be resourced in a similar manner to the State Landcare Fund. Funds would be raised from revenue and private sources and used solely for the purpose of conservation, rehabilitation or improvement of waterways and not for administration. The fund would be additional to normal appropriations.

FUNDING SOURCES

THE AIM

This section of the chapter identifies a range of potential funding sources for the statewide conservation and coordinated management of waterways. It does not aim to rank these options but provides a practical structure, principles and criteria to assist Government in evaluating the appropriateness of each, both individually and collectively.

It is clear that Government generates direct revenue from public and private use of waterways resources and therefore a user pays system already exists in part. This could be expanded to include as far as practicable all easily identified specific and general users. In this regard, the two key criteria of equity and ease of collection should be applied in evaluating user pays funding opportunities.

It is important to note that this approach includes all users ranging from those that derive pleasure and profit from waterways in good condition to those who use the resources as a means to discharge drainage waters (i.e. polluter pays). In a generic sense, users within the community can be divided into two distinct groups who benefit in different ways from waterway

resource quality, namely:

- **Specific users** (beneficiaries) of the resources of the waterways for recreation and other forms of pleasure, and commercial benefits; and
- **General users** (beneficiaries) who may infrequently use the resources but consider them to be of value to their living and the natural environments and therefore derive general benefits.

In conclusion there should be two general principles and two 'tests' which guide the examination of options for raising of revenue to coordinate the management of the State's waterways:

PRINCIPLE 1

That funding for conservation and coordinated management of the State's waterways should come from both the Consolidated Fund and direct revenue.

PRINCIPLE 2

Raising direct revenue for conservation and coordinated waterways management should be based on a user pays principle with revenue coming from specific and general users of waterways wherever possible.

Potential funding sources need to be subjected to 'tests' to see if they are just and practical. Two tests against which possible sources of funding will be evaluated are equity and ease of collection:

TEST 1 - EQUITY

The extent to which options are equitable (fair and just) for specific and general waterways users.

An equitable funding approach can be amplified in the following terms:

- If the cause of particular problems in waterways can be traced back to groups or individuals, it is reasonable to charge them an amount which is consistent with the cost of correcting the damage they have done; or alternatively
- If groups or individuals will benefit from improved management of waterways, it is reasonable to charge them an amount which is related to the benefit they receive from the improved management;
- If taxes are raised from the use of waterways it

is reasonable that a portion of these be returned for the good management of the waterways; and

- If it can be demonstrated that there are users who derive an indirect, general benefit from waterways resources then broadly based taxes or charges should also be considered.

TEST 2 - EASE OF COLLECTION

The extent to which the revenue sources identified can be readily accessed with funds collected in an efficient and accountable fashion that does not of itself create excessive, additional administrative mechanisms.

For the two user groups there are three distinct types of revenue generated from waterway resource use. These groups are outlined in summary form below.

Revenue Group 1

Fees currently not charged for general amenity use of waterway resources - There is no effective means to collect from direct users such as swimmers and picnickers and those that use resources in a more indirect way such as sight seeing. A potential revenue generating means is the application of general rates similar to the Perth Metropolitan Region Improvement Tax or a specific rate collected from all households.

Revenue Group 2

Direct user fee collection (e.g. registration and other use fees) - These include users that pay fees directly to Government but only include a portion of the total number of direct users. Such charges include boat registrations, commercial foreshore lease areas and riverbed leases. There are other uses that could derive rent charges which are not collected at present: for example, annual mooring fees.

Revenue Group 3

Fees currently not directly accessible (e.g. taxes and levies) - Direct commercial use of waterway resources can generate, for example:

- Income tax from commercial enterprises such as fishing and tourism;
- State and Federal marine fuel spirit levies;
- Stamp duty and land tax from residential properties with "river views";
- Sales tax from new boat sales, equipment and maintenance.

There are a whole range of possible sources of funds (options) but when the two tests of equity and ease of

collection are applied these reduce to a more limited number which should be considered by the community and Government. Set out below is a list of these possible sources of funding for the conservation and management of the State's waterways. The preferred option might be one or more of these in combination, but this is rightly a decision for Government.

Where appropriate, background to the possible funding source including qualifications and pros and cons is given, and a measurement against the tests of equity and ease of collection. Discussion is based on a case study of the Swan-Canning Rivers but has application to the whole State.

Source A

A component of boating registration fees be allocated to coordinated waterways management.

Boating activities are one of the potentially large revenue raisers. At present these revenues are in the form of **recreational boat registrations** and include all powered boats. Those which are powered by sails are excluded from paid registrations and this should be reviewed. All revenue associated with boating activities is currently collected by the Department of Transport and paid directly in to the Consolidated Fund.

It is suggested here that the charges be reviewed to increase them to ensure that the Department of Transport receives an adequate allocation and the SWMB secures an appropriate funding component to support general waterways management.

The Department of Transport also collects **commercial boat registration fees**. There is no available information on precisely where these vessels are used, but it has been estimated that the number of commercial boats specifically operating in the Swan - Canning is about 380.

QUALIFICATION

Fees collected for boat registrations by DOT go towards ensuring safety and 'good order' with respect to vessels using waterways and in providing appropriate levels of access to the public via suitable jetties, boat launching ramps, moorings and other marine facilities. The monies collected by DOT do not fully cover the administration of these activities. Therefore, if Government chose boat registration fees as a source of revenue for the general waterways management functions of the SWMB it would need to look at a new fee structure which supported these functions but did not adversely impact on DOT's requirements.

Source B

Commercial boat operators using waterways (e.g. ferries and charter boats) to be charged an additional fee for coordinated waterways management.

Commercial boat operators involved in activities such as ferries and charter boats should contribute directly to coordinated waterways management. This could be achieved by applying direct rates to better reflect the true value of benefits they derive from coordinated waterways management.

In this instance, both the boat operators and the passengers carried could be regarded as beneficiaries. Boat owners derive benefit from particular values associated with waterways which enable them to conduct viable commercial operations. The customers or passengers utilising the commercial operation also benefit directly from the waterways amenity.

Source C

Mooring fees to be charged in all inland waterways and a proportion of the fee should go to coordinated waterways management.

Mooring fees in all waterways could include an annual rental charge to ensure that waterways are not used as a free good within a common property environment. Currently there are no mooring rental fees charged in the Swan-Canning estuary even though rents exist elsewhere in WA. The charges should be based on a review of the State's mooring rental fees.

QUALIFICATION

This is a potential source of revenue to cover costs associated with the Department of Transport's Maritime Program.

Source D

Commercial riverbed and foreshore licences and leases should be charged a full commercial rate that accounts for the value of the waterways location with a proportion of revenue returned for coordinated waterways management.

It is suggested here that **commercial riverbed and foreshore lease** arrangements do not always reflect the true value derived by commercial operators and therefore these arrangements could be reviewed. This is important because the history of lease and licence arrangements indicates an irregular system of charging and collection of fees. In view of this it is suggested that a uniform charging rate is applied and accountability mechanisms to Government for this collection be established. An appropriate portion of

the funds should be directed to the SWMB for coordinated waterways management.

QUALIFICATION

It is recognised that it is not always appropriate to charge the full commercial rate for certain leases and that subsidies will exist for buildings such as scout halls and rowing clubs. Subsidies should be identified and be visible through an appropriate mechanism.

Source E

Drainage systems administered by the Water Authority (Perth only) and LGAs draining into designated waterways should be charged a fee to contribute to coordinated waterways management. Such fees should be based on both the quantity and quality of the water discharged and have a proper economic justification. The mechanisms developed should incorporate incentives to reduce the level of pollution in the discharges.

It is suggested here that the main drainage which enters waterways is the responsibility of either the Water Authority of Western Australia or local government authorities.

It should be made clear that Water Authority drainage responsibility is confined to the Swan-Canning systems drainage catchment. It does not include responsibility beyond the point of discharge into the natural waterways. This matter is important because WAWA and local government authorities are not charged to discharge into this waterway system.

Funding from this source would be equitable under the terms described above but collection mechanisms would have to be established.

QUALIFICATION

The selection of this source would require the establishment of monitoring, assessment and fee collection mechanisms. Together with the impost, this would lead to increased costs for the management of drainage which would directly flow through to general users.

The Water Authority contributes 5% of its revenues to Government as a form of tax, and this could be construed to cover some of the costs of managing natural resources affected by its operations. Close working relationships are being forged between the Swan River Trust, Waterways Management Authorities and many LGAs who are contributing some resources to waterways management. The longer term impact of imposing drainage charges on LGAs in terms of strengthening cooperative agreements between 'the waterways manager' and local government communities needs to be taken in to account.

The rating of country drainage systems has now ceased. Therefore, the Water Authority no longer has this revenue base for managing these systems. The future management of rural drainage is now under review by the Water Authority.

Source F

The Federal Government could be approached to provide an annual contribution or grants, proportional to the funds raised by the State from the Consolidated Fund and revenue sources, to support coordinated waterways management.

The Federal Government, through such initiatives as the National Water Quality Management Strategy, Landcare and the Monitoring River Health Initiative, asserts a strong commitment to waterways management. Based on the presentation of this State Waterways Management Framework developed from a broad consultative process, the State Government should seek a Federal funding contribution to coordinated waterways management coming from sources at national level. Such revenue sources are very considerable and include sales tax on new boat sales, equipment and maintenance, the Federal marine fuel spirit levy and income tax generated from commercial enterprises and operations such as fishing and tourism.

The mechanism for collecting these funds requires a direct approach by Government to its Treasury and to the Commonwealth Treasury. There is no existing system in place but the importance of this potential source is that the basis of the charge is not reflected in the allocation of funds which totally excludes allocations to coordinated waterways management.

Source G

A general waterways improvement charge for coordinated management of waterways should be raised from the wider community.

Nearly everyone in Western Australia benefits from the waterways and therefore should pay a small contribution to keep them healthy and well maintained. Applying the criteria of equity, methods of collecting a general waterways improvement charge need to be examined. Three practical methods are outlined below. Other methods maybe available and some are being explored in other States.

METHOD 1 - THE EXISTING WATER BILLING SYSTEM

Because waterways management is part of water resources management, one means of collecting the charge is through the State's **existing water billing system**.

Annual water bills for both residential and commercial consumers have a water consumption component and a 'rated' component for sewerage and drainage services (where accessed). The rating component of the water bill is based on the gross rental value of properties.

Funding using this method would provide a reasonably equitable situation whereby most waterway resource users would pay a small amount. It also accounts for the ability to pay because this is already built into the current water billing system. Ease of collection would be high as revenue could be sourced and made explicit within the existing water billing system.

QUALIFICATION

A percentage of revenue from water rates currently goes to the funding of the water resources business of the Water Authority. If the Government chose the water bill as a source of revenue to support general waterways management functions, the levy would need to be on top of the allocation currently going to the water resources operations of the Water Authority. It should also be noted that not all owner/occupiers pay water rates and charges.

METHOD 2 - ACCESSING A GENERAL IMPROVEMENT TAX

Apart from the waterway users that are directly charged by government there are other direct and indirect waterway resource users that are not charged even though each user depends on waterways being in good condition to derive their specific or general benefits. Direct users, for example, include the owners of commercial and private properties with river views and river access. Indirect users are those within the community that derive benefit from waterways because the rivers and estuaries are part of a general urban and rural setting and provide a wide range of amenities.

One current charge in Perth is the **Metropolitan Region Improvement Tax**. Revenue is allocated within the Metropolitan Region Scheme for land purchase, Regional Open Space management and preservation of Important Regional Roads. As a possible funding source for the coordinated management of waterways, this option is not very equitable as it is restricted to metropolitan property owners and only applies to investment properties.

In Melbourne, a similar scheme operates, namely the Metropolitan Improvement Rate which covers every residential and commercial property. New arrangements announced earlier this year now mean that all of the funds raised from this rate (\$58m) will go specifically to Melbourne Parks and Waterways, with perhaps 33% of this going to waterways management in the Greater Melbourne Region.

Adoption of a method similar to the Melbourne scheme in Western Australia could raise about \$5m for waterways management which translates to about \$10 per rateable residential household. Ease of fund collection for such a method would be quite high. Collection could be through the Taxation Office, Land Titles Office or even Australia Post.

METHOD 3 - CREATING A LOCAL GOVERNMENT CHARGE

Local government authorities effectively cover all waterways user groups. A new charge could be initiated at this level for the purpose of contributing to the management of the State's waterways.

This funding method is very equitable in that virtually all waterways beneficiaries in the State would be required to make a contribution. In terms of ease of collection, however, this possibility would not be supported by any current local government revenue raising mechanism. The logistical, administrative and accountability difficulties associated with using a local government rate as a revenue source are great.

Using the test of equity, a local government charge would probably be the preferred method for coordinated waterways management but may be resisted by local government. With respect to the ease of collecting a Waterways Improvement Charge, utilising the existing water billing system would be the preferred method, followed by accessing a general improvement tax and creating a local government charge respectively.

Summing Up The Options

The selection of one or a combination of specific user funding sources could contribute significantly to supporting coordinated waterways management. By definition such charges will exclude some categories of specific and general users and might attract criticism on the basis of equity. Counter to this, charging for direct usage of a natural resource has merit and is generally more acceptable to the community as a whole.

The Federal Government is a major collector of revenue linked to the beneficial uses of State waterways resources. Currently there is no Federal funding for waterways management except in a very limited form through the National Landcare Program for demonstration and 'seeding' projects.

In this proposal the State is providing national leadership in the development of a statewide waterways management framework which is strongly supportive of national water resources policy objectives. There is therefore a strong case for Federal funding on a continuing basis to support such a framework. Precedent exists (roads, health, education) for substantial Federal funding support

to State initiatives and this option should be pursued vigorously.

The imposition of a general rate or charge for coordinated waterways management in Western Australia is attractive in that most direct and indirect beneficial users would make a contribution, ensuring an acceptable level of equity. A broadly based charge also guarantees that the contribution per capita would be quite small. By extension of the example of a Metropolitan Region Improvement Tax, a family of four might contribute only \$2.50 per capita towards a \$5m total funding source for coordinated waterways management.

A charge set into the water billing system would be easy to implement as part of a well established, appropriate mechanism already applied by the Water Authority of WA.

The administrative and political consequences of raising revenue via a local government charge needs to be weighed up against its ability to cover the largest number of beneficial users. Some precedence does exist for local government support of whole-of-state programs. Local government rates provide 12.5% of the revenue base for the WA Fire Brigade.

As is the case with the Melbourne Parks and Waterways, a commercial billing fee would need to be negotiated between the State Waterways Management Body and the collection agency. Further analysis of these funding options could also be extended to include an examination of possible alternative charge collection mechanisms that could be provided by organisations such as Australia Post.

Imposition of new charges and charges of this nature may result in adverse reactions. It is important, however, that such charges and methods of collection be identified. It then becomes a political decision as to whether an additional charge will be introduced.

CONCLUSIONS

The revenue raising options outlined in this chapter, show that there are both existing charges that require review and new sources that could contribute to the effective coordinated management of Western Australia's waterways. Accessing all user pay groups is difficult but a small general tax or charge would provide a high degree of equity.

The funds required to effectively coordinate the management of the State's waterways are small relative to the revenue raised and economic benefits from this natural resource, and the value of the resource to current and future generations of beneficial users. Partially funding management

through revenue provides security and continuity of funding plus increased accountability. There are a number of potential sources of funding which need to be explored by Government on the basis of establishing a funding base linked to revenue and user pays principles and tests of equity, and ease of collection.

Realistically, the total funding required to provide an optimal level of management for the waterways of Western Australia would be in the range of \$13.5m to \$15m. In addition to the existing Consolidated Fund allocation, revenue could come from a variety of State and Federal sources. Other combinations of revenue sources

could also be considered as a basis for raising the aggregate funding needed.

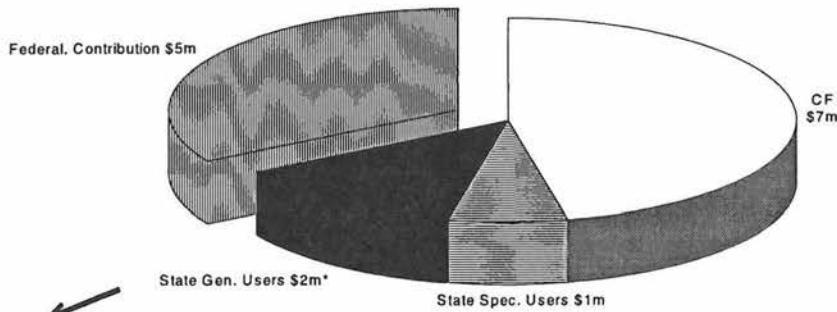
Two possible options are outlined in Graph 1. below.

Recommendation 6

That a system of adequate and secure funding be established to support the Waterways Commission in undertaking the proposed statewide responsibility for waterways planning, conservation and coordination in respect to in-stream values and uses, and in consolidating and extending its role in coordinating waterways area management.

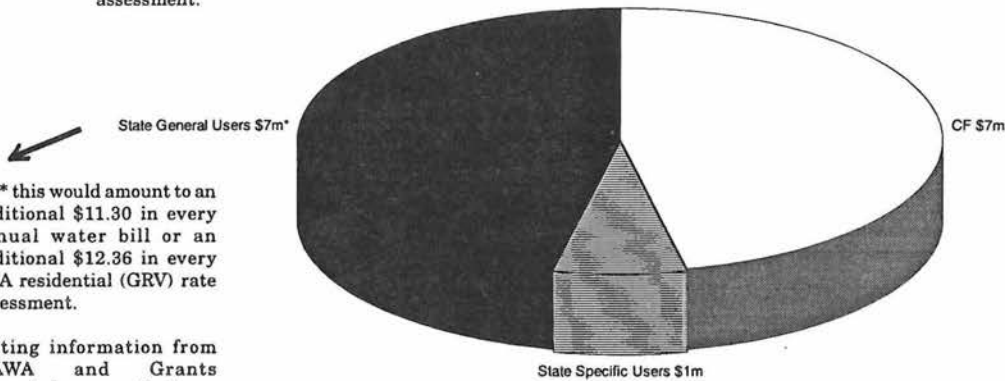
**Graph 1.
State Waterways Management - Two Possible Funding Options**

Funding Option 1



e.g.* this would amount to an additional \$3.30 in every annual water bill or an additional \$3.50 in every LGA residential (GRV) rate assessment.

Funding Option 2



e.g.* this would amount to an additional \$11.30 in every annual water bill or an additional \$12.36 in every LGA residential (GRV) rate assessment.

*rating information from WAWA and Grants Commission respectively

Examples of Possible Funding Sources

State Specific Users	State General Users	Federal Contribution/Grant
boating registrations mooring fees drainage licences	waterways improvement tax	based on revenue from: marine fuel excise income tax boat sales & parts

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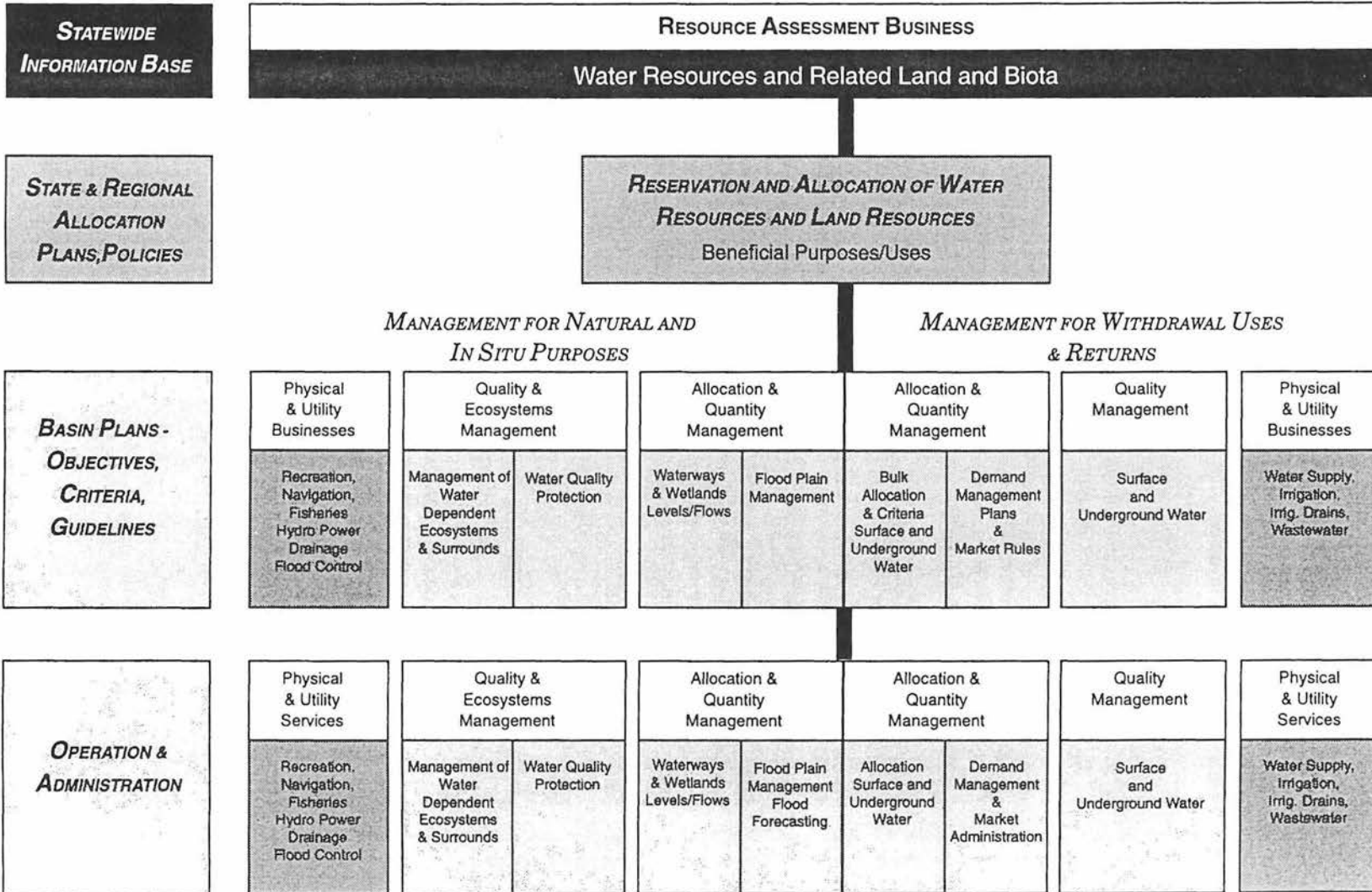
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Water Resources Business — Western Australia

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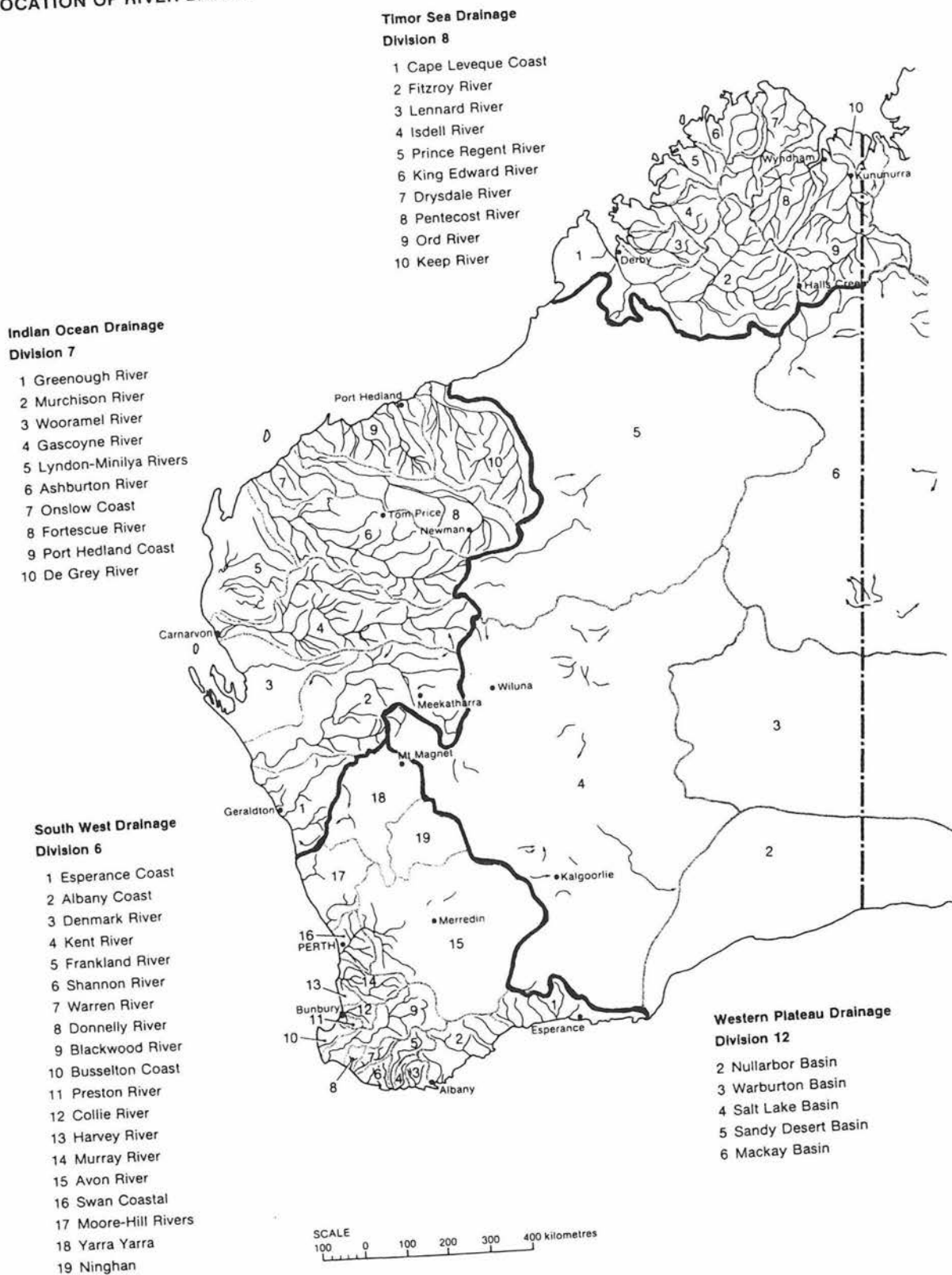
Appendix 1.

Water Resources Business - Western Australia
(From River Management in WA: Ministerial Discussion Paper, WAWRC, 1994)



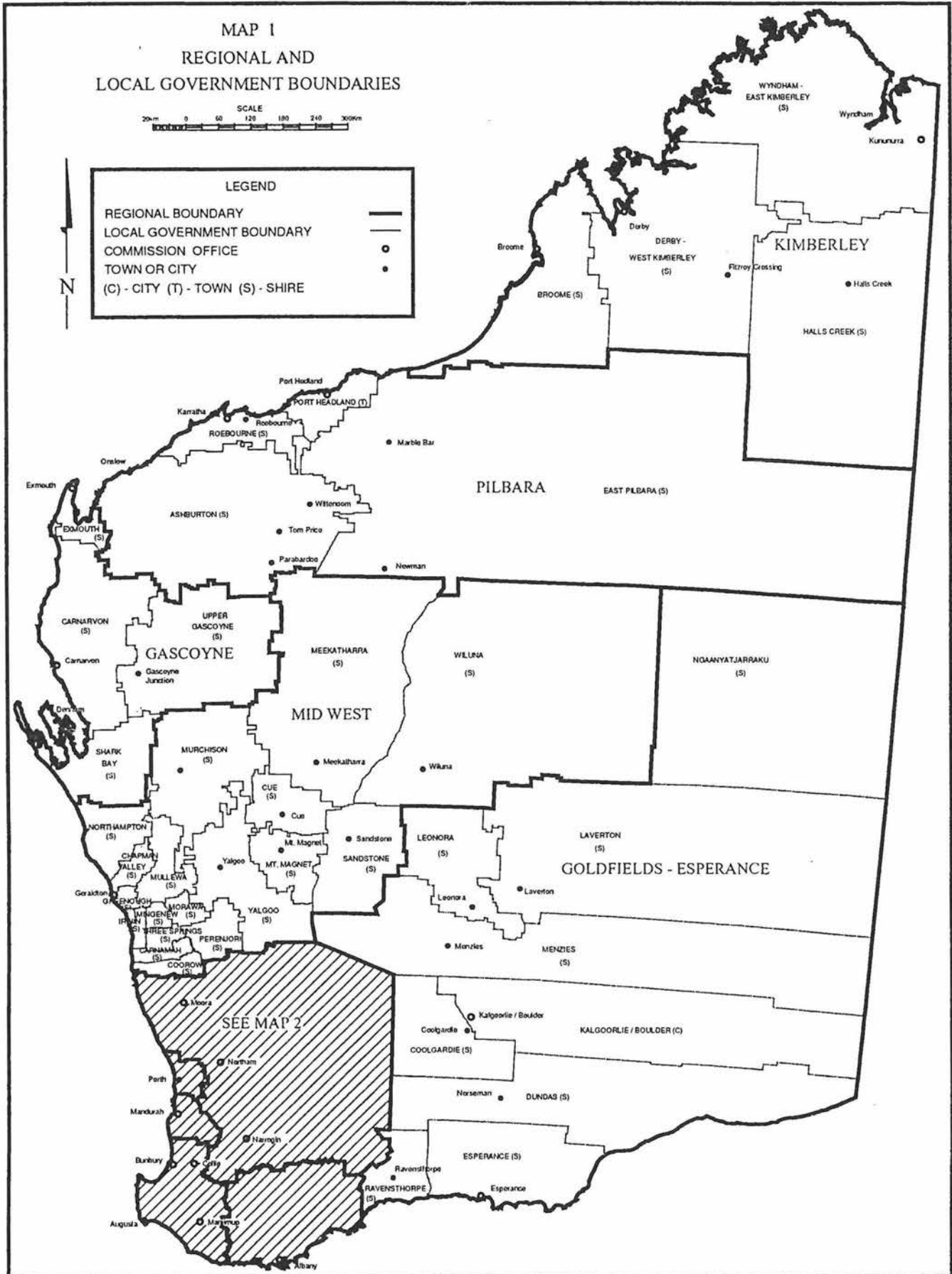
Appendix 2.

LOCATION OF RIVER BASINS



Appendix 3.

Regional Development, Planning and Local Government Authority Boundaries



Appendix 3. cont ...

Regional Development, Planning and Local Government Authority Boundaries*

* The Regional Development Commission Boundaries correspond with regional boundaries proposed under new planning legislation with the exception of Serpentine Jarrahdale which is included in the Perth metropolitan region rather than the Peel region.

