SECURING OUR WATER FUTURE

Green Paper for Discussion

Submission to the Government of Victoria on behalf of the Planning Institute of Australia (Victorian Division)
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INTRODUCTION

PIA Victoria welcomes the opportunity to contribute to the Victorian Government’s “Securing Our Water Future” policy discussion paper (referred to hereafter as the “Green Paper”) and appreciates the extension of time offered to submitters.

The aims of this submission

PIA Victoria applauds the Governments efforts to ensure the sustainable use of Victoria’s vital water resources and supports the broad policy directions outlined in the Green Paper. This submission seeks to contribute constructive comments on core elements within the Green Paper. In summary, this submission:

1. Acknowledges the need for urgent action to achieve the sustainable use of Victoria’s water resources and improve the health of Victoria’s rivers, streams and groundwater aquifers; and the Government’s intention to manage water resources based on an understanding of dependency upon a healthy environment. The introduction of Caps in overstressed rivers is strongly supported. PIA Victoria urges that consideration also be given to the introduction of Caps on groundwater aquifers. PIA calls for transparent, regular State of Environment reporting on catchment and aquifer health, ‘natural flow’ requirements across each water catchment, water entitlements and allocations, use levels, sales and trading of river system and aquifer waters.
2. Emphasises the need to improve the policy relationships and practical connections between regional catchment strategies, planning schemes and planning decisions.
3. Acknowledges the need to improve water conservation; stormwater, grey and black water recycling.
4. Emphasises the need to progressively make the concept of ‘waste water’ obsolete in modern society. ‘Fit-for-purpose’ water recycling is supported if programs to reduce water based pollutants to within-environmental-capacity limits and to maintain environmental and public health standards and capabilities accompany it.
5. Acknowledges that the design and management of water distribution, sewerage and stormwater systems within all forms of development requires improved standards and incentives.
6. Emphasises the need to systematically change the way we design, build and maintain all urban areas by applying water sensitive urban design and integrated water management techniques in all residential, industrial (agricultural and manufacturing based) and commercial land uses and developments, so that water resources are managed in a sustainable way.
7. Acknowledges the critical role of government in setting and maintaining the water governance framework, and the importance of strengthening water authorities’ public accountability and in maintaining water authorities in public ownership.
8. Emphasises the need to address the potential conflicts of interest between the Responsible Authority role of water authorities and retailers in development assessment processes. PIA Victoria also emphasises the need to maintain and build upon our national, State and local knowledge bases about water resources, and the health of water catchments, rivers, streams and aquifers, making this vital information central to water resource management and land planning authorities; and to more effectively engage all water consumers in water governance partnerships.
Other water-significant inquiries

The Planning Institute of Australia (national and Victorian boards) have made submissions and representations to a number of recent State and Commonwealth Government inquiries in which the conservation and sustainability of water resources is a central theme. These include:

- The Standing Committee on Agriculture, Fisheries and Forestry Inquiry into Future Water Supply for Rural Industries and Communities; policy process;
- The House of Representatives Standing Committee on Environment and Heritage Inquiry: Sustainable Cities 2025; and
- The Productivity Commission’s inquiry into housing affordability.
- PIA Victoria has also recently appeared before the Parliament of Victoria’s Outer Suburban/ Interface Services and Development Committee Inquiry into Sustainable Urban Design for New Communities in Outer Suburban Areas.

In addition, in September 2003, the PIA national executive adopted a national policy on Water and Planning. [A copy of this policy forms an attachment to this submission.]

PIA Victoria urges the Government to consider the findings from these highly relevant reviews as the Green Paper moves into the White Paper phase.

THE NEED FOR URGENT ACTION

Water’s critical role in the ecology and economy

Water quality and availability is increasingly affected by human demands for water, the methods of its collection, storage, refinement and distribution, and the extent of and by-products arising from the use of water. Water quality is imperiled by human habitation and economic activity, by runoff from hardened surfaces, and high volume release of stored water, causing variously, problems of turbidity, pollution and temperature changes. The natural environment has a certain capacity to accommodate pollution, to oxygenate water, to filter impurities and refresh water. Human endeavor and demand for water has destroyed or severely degraded this capacity in some places, and is projected to continue to do so unless water resource and land management practices are modified quickly.

Drought and episodic floods are normal features of the Australian environment. Global and more localized climate changes appear to be exacerbating these conditions. Irrespective of, but exacerbated by the current drought, clean and fresh water is increasingly in short supply.

*Water can no longer be seen as an infinitely renewable resource available for free or highly subsidised and unrestricted use from waterways and groundwater reserves. Nor should water be seen primarily as a tradable commodity above its inherent role as a natural asset contributing to all forms of life and ecosystems on the Planet. Modern society cannot afford to continue with the concept of waste-water or water-wasteful activities. Water is a vital resource that must be managed sustainably - not only for the benefit of humans but also for the whole environment – all biological, human and other animal life forms.*

*The establishment and maintenance over time of a strong and positive water-ecosystem-human relationship - that is, a mutually supporting relationship between water resource management, ecosystem health and biodiversity, and human endeavor in urban and rural industries and communities - should be a primary outcome of water policies across Australia.*
PIA notes Environment Victoria’s estimates that 22% of Major Rivers and Tributaries are in good or excellent condition; 44% are moderately impacted by human use; while 34% are in poor or very poor condition. Table 2.1 of the Green Paper highlights rivers with the lowest levels of natural water flows. This table shows the rivers in Victoria where natural flows are most disrupted. Rivers very likely to be stressed are: Goulburn 37%; Murray 39%; Wimmera 43%; Campaspe 53%; Thomson/Macalister 59%; Moorabool 50%; Snowy 60%; Yarra 65% and Loddon 67%.

In 2002 The Draft Victorian River Health Strategy Healthy Rivers, Healthy Communities and Regional Growth reported: “Victoria’s rivers and streams are showing significant signs of degradation and many are still on a downward trajectory. If not addressed, this will put at risk the range of economic activities that depend on healthy rivers.”¹ The Strategy set out a series of statewide targets to be achieved by 2005, 2011 and 2021.² These targets remain before the Victorian community as important milestones, the achievement of which should be incorporated into work programs of Catchment Management Authorities, local governments and other relevant bodies and progress regularly reported upon.

Our waterways, wetlands and groundwater aquifers are clearly in need of major help! PIA Victoria welcomes the Green Paper’s proposals to:

- **Legislate for the provision of water for the environment and program to re-establish environmental flows by establishing an environmental reserve under the Water Act 1989.** The basis for the reserve must be grounded in the scientific understanding of catchment-wide environmental conditions and ecological health. Regular public reporting should be provided through State-of-Environment Reports.

- **Establish a cap on nine additional Victorian Rivers where natural flows are substantially diminished and river health is most critical and take action to progressively remove over-allocated and stressed rivers and aquifers.** PIA Victoria has some concern with the long time frame proposed. PIA Victoria notes that while most of the data in Table 2.1 is drawn from the National Land and Water Audit 2000, it is unfortunately unclear what year this water data relates to. It is also noted that the Green Paper lacks detail about the health of major aquifers and the extent of allocation/over-allocation within both River systems and major groundwater aquifers. The Victorian River Health Strategy’s anticipated downward trajectory for the health of many rivers is presumably also applicable to aquifers. With river and aquifer flows and consumption levels likely to be exacerbated by the extensive and prolonged drought conditions, the Green Paper’s proposed River Caps represents a conservative baseline, which should be reassessed at least annually, to determine whether existing Caps require adjustment or Caps are required in other areas.

PIA Victoria urges the Government to:

- **Reconfirm, build upon and report on progress in achieving targets set out in the Healthy Rivers, Healthy Communities and Regional Growth Strategy 2002.**

- **Continue to make publicly available, regular reports on river, major stream, aquifer and catchment health through annual State of Environment Reports as well as five yearly Victorian Catchment Management Council reports;**

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¹ DNRE 2002:38
² DNRE 2002:10
o Maintain up to date and make publicly available data on all Victorian water resources, including groundwater and surface water reserves, entitlements and allocations, usage levels, sales and trading activities.

o Consider placing Caps on all major groundwater resources, and more tightly manage the water quality and rate of consumption of groundwater resources.

**IMPROVING THE WORKING RELATIONSHIP BETWEEN CATCHMENT STRATEGIES AND LAND USE PLANNING SCHEMES**

Integrated natural resource management, catchment and land use planning, water conservation and water sensitive urban design are all tools that can be used to manage the evident imperilment to the quality and quantity of available water and ensure that a balance is struck between human use and the maintenance of all other life-forms and ecological services. Much can be done by planning and related professions, governments, businesses and the community at large to value and use water resources in a more fitting manner.

PIA Victoria notes the Green Paper proposal to continue the COAG policy of breaking the nexus between land property and water rights and entitlements. PIA Victoria defers its opinion about this policy and requests the Government to monitor the impacts (positive and/or negative) of breaking this nexus. This represents a fundamental shift in land and water management and governance in general that further public information on claimed benefits and estimated and actual impacts is warranted.

PIA Victoria supports the Green Paper’s proposals to:

- To improve the efficiency of and coordination mechanisms between catchment and water authorities;
- Expand the role of the Essential Services Commission in terms of pricing transparency and service quality.

PIA Victoria urges the Government to:

- Improve working relationships and policy coordination between water and catchment management and land use planning activities. Appendix 1 provides a more detailed proposal on practical ways to improve the working relationships between regional catchment strategies and planning schemes and between local governments and CMAs.

**CURBING OUR THIRST FOR WATER - UNSUSTAINABLE WATER USE IN AUSTRALIA, VICTORIA AND MELBOURNE**

The 2001 Australian State of Environment (SoE) identified Australians as one of the highest consumers of water per capita in the world. In the 11 years from 1996/97, total water use in Australia increased 65%. In 1985 82% of Australia’s water was extracted from surface waters (12,000 GL/year); while 18% was extracted from groundwater resources (2,600 GL/year). By 1996/7 79% per cent of water used was from surface waters (19,109 GL), while 21% was from groundwater resources (4,962 GL) (NLWRA 2001a). Put another way, there was a 59% increase in consumption of surface water and a 90% increase in groundwater use across Australia between

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[^3]: Australian Water Resources Council 1987; and National Land and Water Audit 2001a as quoted in *Australia State of the Environment Report 2001*. It is noted that some of the increase was due to improved accounting of water use.
1985 and 1996-97. The SoE 2001 report noted the over-development of groundwater resources with the rate of extraction exceeding the rate of recharge in many areas, including the Great Artesian Basin, many small aquifers in the Murray-Darling Basin, the Perth Basin and aquifers along the east coast of Australia. Groundwater available for allocation has reduced substantially in the last decade, and is now over-used and over-allocated in many Groundwater Management Units (GMUs).4

Irrigation and rural water use

In Australia:

- **Irrigation** is by far the greatest use of water with 75% of water usage in 1996/7. Over the period 1985 to 1996/97, irrigation water use grew by **76%**;
- **Rural water use** consisting primarily of stock and domestic water use comprised 6% of total water use in 1996/7, increasing **2%** from 1985.

As the SoE indicates, on a global scale, the dominance of the agricultural sector is not an unusual feature, although Australia's use is higher than most industrial countries; for example, agricultural usage is 33% in Europe and 49% in North America (Smith 1998). The table below indicates annual water use by (GL) sectors, 1977-1997.

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>Industriala</th>
<th>Commercial</th>
<th>Rural</th>
<th>Total water use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>1 780 (10%)</td>
<td>890 (5%)</td>
<td>534 (3%)</td>
<td>14 596 (82%)</td>
<td>17 800</td>
</tr>
<tr>
<td>1983-84</td>
<td>1 790 (12%)</td>
<td>790 (6%)</td>
<td>481 (3%)</td>
<td>11 540 (79%)</td>
<td>14 600</td>
</tr>
<tr>
<td>1993-94</td>
<td>1 704 (9%)</td>
<td>4 195 (22%)</td>
<td>498 (3%)</td>
<td>12 179 (66%)</td>
<td>18 575</td>
</tr>
<tr>
<td>1994-95</td>
<td>1 799 (9%)</td>
<td>4 114 (19%)</td>
<td>522 (2%)</td>
<td>14 706 (70%)</td>
<td>21 142</td>
</tr>
<tr>
<td>1995-96</td>
<td>1 691 (9%)</td>
<td>4 397 (22%)</td>
<td>463 (2%)</td>
<td>13 325 (67%)</td>
<td>19 875</td>
</tr>
<tr>
<td>1996-97</td>
<td>1 829 (8%)</td>
<td>5 174 (20%)</td>
<td>509 (2%)</td>
<td>15 522 (70%)</td>
<td>22 186</td>
</tr>
</tbody>
</table>

aThe 1993-94 to 1996-97 industrial sector volumes include losses due to environmental flows, seepages and evapotranspiration, as well as water use by the water supply, sewerage and drainage services industry. The 1977 and 1983-84 industrial sector volumes do not include losses due to environmental flows, seepages, and evapotranspiration.

**Source:** Table 25 Australia State of Environment 2001 drawn from AWRC (1981); DPIE (1987); ABS (2000f).

Food and fibre produce from the agricultural sector, and products and services produced by industry and commerce all rely to a greater or lesser extent on the availability of water. Scientifically based measures of ‘embedded water’ – that is, the total water consumed per kilogram or litre of food, fibre or other produce. Exporting highly water-reliant commodities effectively constitutes the export of scarce water resources.

In this respect, Victoria’s target to produce $12 billion of food and fibre exports by 2010 (Green Paper p7 Challenge 1) must be viewed and assessed in terms of the extent to which many of Victoria’s water resources (river basins and aquifers) are already over allocated, and the need to

reduce over-consumption to more sustainable levels within reasonable timeframes. Some hard decisions may need to be made in future in relation to the effective subsidisation of water for inefficient industries and to encourage less water-consumptive industries.

PIA Victoria acknowledges the potential impacts of timber plantations on water resources, as it does the potential impacts on water quality and quantity of large scale native vegetation clearing. However, it is not entirely clear how amending planning processes, will minimise the impacts of new developments (initiative 2.10).

Our observations are that despite considerable progress, some irrigators are not using the available technology to best effect, apparently because the cost of water is still too cheap. Looking to the future, there are some exciting opportunities for high value agriculture to use reticulated irrigation water obtained from efficiency gains and from recycling. Timing, however, is everything. Farming investment decisions have a longer lead time than 'normal' business investment. Catchment Management Authorities (for example the Goulburn Broken Catchment Management Authority) spend a lot of effort in working on long term objectives with the farming community - and this effort appears to be paying off. We should avoid a farming-versus-environmental 'them and us' situation as it will not work.

Irrigation is the life-blood of many families, particularly orchardists and dairy farmers. In the Goulburn Valley, PIA members have observed many changes on water efficiency over the past 20 years - including a reversal of rising water tables through ground water management. We should celebrate these achievements, but recognise that irrigation farming is not yet sustainable. We anticipate that the farming community will embrace the return of environmental flows and wetland management in the Murray Darling system if they are partners in the reform process. The Landcare movement is a prime example of effective partnerships in action.

PIA Victoria supports the Green Paper’s proposals to:
  o Set environmental reserves using the precautionary river health approach; and
  o Use adaptive management to gauge the need to retrieve water for the environment.

PIA Victoria urges the Government to:
  o Expand programs for within-agriculture, manufacturing and commercial business water conservation and reuse strategies.
  o Clarify the intention in 2.10 (p33) to amend planning processes to minimise the impacts of new timber developments, and consider in parallel, the impacts of native vegetation clearance as well as plantation timber on water quality and quantity.
  o Maintain and build partnerships approaches to water conservation reforms with farming, agricultural, irrigation, indigenous and rural urban communities.

Water use in human settlements

In Australia Urban/industrial water use comprised 19.8% of total water use in 1996/7 - an increase between 1985 and 1996/97 of 55%.\(^5\)

The Green Paper indicates that urban water use in Victoria in 1996/7 comprised 9% regional urban, with 8% of water used by metropolitan Melbourne (page 20). The 2002 report of the Water Resources Strategy for the Melbourne Area Committee dissected this consumption. Overall:

- 8% of Melbourne’s water use was leakage;
- 60% of all metropolitan water use went to residential activities;
- 28% goes to commercial and industrial use;
- 4% are miscellaneous (including unauthorised consumption, meter inaccuracies etc).

Looking at Residential water use, the Committee reported that:

- 60% of residential water is ‘used in bathrooms, toilets and laundries, which produces ‘grey and black water’;
- 5% is used in the kitchen;
- while a massive 35% goes on home gardens.

Looking at Industrial and Commercial water use, the Committee reported that:

- 29% is used by major industrial activities;
- 61% by other commercial and industrial activities (not detailed); and
- 10% used by major commercial activities

PIA Victoria notes that unfortunately these ratios are not pinned down to consumption within a particular year. Keeping track of changing absolute levels as well as ratios between sectors is an important strategic tool for targeting actions to improve water conservation.

In some rural Victorian towns, outdated sewerage and stormwater systems, some based on technology and infrastructure of two centuries ago, now need to replacement following the EPA’s review of urban discharge licences across the State. Much more action is needed to reduce water wastage across the small and large urban centres throughout the State. Many small towns desperately need to improve water efficiency in public facilities.

By introducing best practice planning and development standards and practices we can make substantial reductions in pollution, improve water quality in waterways, water catchments and coastal environments, and better support economic and social well-being. PIA Victoria notes tables in the Green Paper suggesting overall levels of water savings to be made from introducing water conservation devices. Unfortunately, the take-up rate for installation of these devices is not made explicit. Existing poorly fitted housing stock may take longer than new stock to lift to a higher water efficiency standard. Further detail on the estimated take-up rate across new and existing dwellings and premises generally is essential to ensure assumed rates of water saving are actually being achieved.

PIA supports the Green Paper’s proposals to:

- Establish ‘Sustainable Water Management’ as a primary goal;
- Emphasise water quality: reliable and safe water and sewerage systems.
- Encourage all Victorians living in cities and towns to use water smarter;
- Encourage community appreciation of water services and the ethic of water conservation and most efficient water use;
- Meter all significant water use;

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- Encourage a more efficient and accountable water sector;
- Extend the Water Smart rebate system for households;
- Support water management plans for the top 200 industrial water users in Melbourne; and regional urban water authorities to develop waste management plans for large industrial and commercial users; and
- Provide incentives for industry to use alternative water supplies such as fit-for-purpose treated water.

PIA Victoria urges the Government to:
- Expand programs aimed at reducing water based pollutants to within-environmental-capacity limits and to maintain environmental and public health standards and capabilities to accompany the introduction of fit-for-purpose water treatment.
- Provide further detail on the estimated take-up rate for water conservation devices in new and existing dwellings and premises generally to ensure assumed rates of water saving are actually being achieved.
- Encourage through all planning schemes, the use of water saving devices, water sensitive urban design and integrated water management methods as a central design feature in all residential, industrial, and commercial developments. Appendix 2 provides a more detailed outline of water sensitive urban design and integrated water management approaches to water conservation and fit-for-purpose grey and black water treatment.
- Promote opportunities to establish creative partnerships between plumbers and builders, planners and architects for the widespread adoption of water sensitive urban design and integrated water management practices.
- Consider a new local government program to support the introduction of basic water saving devices (such as dual flush, minimal water-use toilets) in public facilities.
- Report on actual levels per annum and ratio changes over time as part of its performance monitoring.

**WATER GOVERNANCE**

**Referral Authority Status**

PIA Victoria notes the role of Catchment Management Authorities as the "caretaker for river health" responsible amongst other things for "bed and bank erosion". The Green Paper proposes to expand this role to include operational management of the environmental reserve(s) and other aspects of river health (p85).

This raises the serious question of ‘who manages groundwater reserves’? In 1991, Phillip Macumber reported on the vital interaction between Ground and Surface Water Systems for the then Department of Conservation and Environment. Yet this report appears to have been ignored in the Green Paper, as the governance of groundwater systems remains under the control of Water Authorities, while surface waters are the responsibility of Catchment Management Authorities.

**Consumer Issues, Environmental Health and Public Health and Safety Issues**

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The Victorian Catchment Management Council under current legislation is required every five years to report on the state of Catchments. PIA Victoria considers that this time frame is too long for the support of adaptive management practices. Clearly the VCMA and also CMAs have a general catchment management/health role. PIA Victoria considers in broad terms, that water authorities and water businesses are not appropriate as the primary water Referral Authority as they are essentially the water marketing and delivery arm of Victorian water governance.

The Green Paper proposes that the Essential Services Commission (ESC) is made responsible for administering three principles: water conservation rewards (providing incentives that drive sustainable use); ensuring pricing reflects the scarcity of the resource and costs related to environmental impacts associated with provisions of water based services; and recovering the costs of the full range of environmental services (p87). As drafted, the proposed changes do not clearly see the pricing regulator providing incentives for water authorities and significant others such as CMAs or Water Authorities and Water Businesses to be efficient and effective in their provision of water-based services and environmental services - both of which seem to embed important issues of the maintenance of infrastructure and environmental and health considerations. [On one scenario, this could leave Victorians bearing the high costs and heavy environmental burden of maintaining obsolete centralised water infrastructure systems and unable to support potentially lower costs, decentralised grey and black water recycling infrastructure, with little or no resources for Environmental Health Services and other approaches to maintain water health standards.]

Nor do the ESC changes provide the any capacity for the ESC to contribute to the setting of prices of water purchased for the environmental reserve. The ESC should be enabled to contribute advice to government on the setting of prices for water allocated in the environmental reserves, the setting of incentive for "donation of water to the reserves", and be part of the wider approach to monitoring environmental and social health funding across the water system.

PIA Victoria is concerned about the potential for conflicts of interest between commercial interests of water distributors and water marketers where they are nominated as Responsible Authorities under the Planning and Environment Act 1987. PIA Victoria considers Catchment Management Authorities, especially given CMAs’ wider catchment health responsibilities and additional responsibilities proposed in the Green Paper as more appropriately the lead water authority for advising planning and development assessment processes.

PIA Victoria notes that the Green Paper proposes the development of Sustainable Water Plans (SWPs) (Box 7 p 9). This raises a question about the relationship between SWPs and stream flow management plans (SFMPs). PIA Victoria supports the asset and scientific based approach to determining natural resource management priorities. In the short term, and in principle, PIA Victoria supports the streamflow management process, and urges that the first batch of draft SFMPs before the Minister are signed off as a matter of priority. In the medium term, the relationship between these two types of plans needs to be clarified for all parties.

PIA Victoria supports the expansion of the role of Catchment Management Authorities to be responsible for operational management of the environmental reserve.

PIA Victoria urges the Government to enhance the role of and support the performance of Catchment Management Authorities to be:
PIA Victoria also:

- Supports the asset based approach to determining natural resource management priorities
- Supports current streamflow management process, and urges that the first batch of draft plans before the Minister are signed off as a matter of priority; and
- Requests the Government to ensure that the VCMA and CMAs report annually on water resources and aspects of river and groundwater reserve health and that full state-of-the-catchment environment reports be made in cycle with the Australia State of Environment reports.

PIA Victoria supports the Green Paper's proposed expansion of the role for the Essential Services Commission to take on responsibility for administering three core pricing principles. PIA Victoria urges the Government to clarify that the pricing regulator may also:

- Make recommendations to Government on
  * The provision of incentives for water authorities and significant others such as CMAs to be efficient and effective in their provision of water-based services and environmental services;
  * On alternatives for provision and maintenance of water infrastructure and environmental and social health standards;
  * The setting of prices for environmental reserves; and
  * The setting of incentive for "donation of water to the reserves;" and
- Contribute data and information as part of the wider approach to the monitoring environmental and social health issues across the water system.

CONCLUSION

PIA Victoria congratulates the Victorian Government on its Green Paper proposals. We have raised what we believe are highly practical and constructive considerations that, taken together, will enrich and improve the workability of the policy proposals contained in Securing our Water Future.

PIA Victoria strongly supports a whole-of-water-resource management approach, which takes into account not only surface water, but also ground water and storage water reserves; and considers environmental flows and catchment health relative to surface flows and ground water aquifers.

It is our contention that water can no longer be seen as an infinitely renewable resource available for free or highly subsidised and unrestricted use from waterways and groundwater reserves. Nor should water be seen primarily as a tradable commodity above its inherent role as a natural asset contributing to all forms of life and ecosystems on the Planet. Modern society cannot afford to continue with the concept of waste-water or water-wasteful activities. Water is a vital resource that must be managed sustainably - not only for the benefit of humans but also for the whole environment – all biological, human and other animal life forms.
The establishment and maintenance over time of a strong and positive water-ecosystem-human relationship - that is, a mutually supporting relationship between water resource management, ecosystem health and biodiversity, and human endeavor in urban and rural industries and communities - should be a primary outcome of water policies across Australia.
APPENDIX 1: IMPROVING THE WORKING RELATIONSHIPS BETWEEN REGIONAL CATCHMENT STRATEGIES AND PLANNING SCHEMES

The challenge is for catchment management strategies and water allocation plans to be linked more closely to land use planning – not only through municipal planning schemes and development assessment processes, but also through strategic planning exercises and works programs conducted in partnership. Another important dimension of catchment management-land use planning integration is the development and use of shared knowledge through interfaced GIS systems and pooled data on natural resource management, biodiversity, soils, water quality and other indicators of catchment health and wellbeing.

Planning for land and water


Ten Catchment Management Authorities (CMAs) formed in 1997 have the responsibility of overseeing the sustainable management of the State’s natural resources as well as providing advice to government. Regional Catchment Strategies (RCS) are a primary integrated framework for land, water and biodiversity management in regions and the overarching strategic document, under which are nested a number of action plans and strategies for the region. All RCSs set out a blueprint for investment by the Commonwealth and State Governments and regional communities in land and water resource management, and as such are approved by the Victorian Minister for Water and the Victorian Premier and accredited by the Federal Minister for Agriculture, Fisheries and Forestry, and Minister for Environment Australia.

All municipalities in Victoria are covered by land use planning schemes that are prepared by local councils or the Minister for Planning acting in their capacity as a planning authority. Using consistent zones and overlay controls and particular and special provisions (as appropriate to the area) drawn from the Victoria Planning Provisions (VPP) local planning schemes set out the Local Planning Policy Framework which includes a Municipal Strategic Statement. Local planning policies must be consistent with the State Planning Policy Framework (SPPF) spelt out in the VPP.

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9 This section arose out of a workshop of the PIA Victoria Environmental Planning Group held in May 2003. The workshop addressed three questions that essentially encompassed discussion of the strengths and weaknesses of the relationship between the regional catchment strategies and planning schemes and solutions for improvement. The PIA EPG is keen to pursue these matters with key stakeholders.


12 The two State Ministers - Steve Bracks as Victorian Premier and John Thwaites (as Minister for Water) and two Commonwealth Ministers Warren Truss (as Minister for Agriculture, Fisheries and Forestry) and David Kemp (Minister for the Environment) sign off on the RCS – an arrangement which is partly funding approval protocol, but which is also required under a bilateral agreement. RCSs are tabled in Victorian Parliament.
and the objectives of the *Planning and Environment Act 1987*. All schemes are approved by the Minister for Planning.

The three critical Victorian Acts pull in the same direction, but fine-tuning is required for the legal framework to work more effectively together - not the least important task is for the full incorporation of regional catchment strategies into planning schemes. As a first step, Municipal Strategic Statements – the front piece of all Victorian planning schemes, should be required to take into account the RCS. This initiative should go hand in hand with more awareness building on the full dimensions of sustainability, with sustainability built in as a required outcome across CMAs and Councils.13

The relationship between the RCS and planning schemes is illustrated in the following diagram that has these features:

- The RCS and LPPF are high level strategic documents;
- The RCS and LPPF should influence each other because of some strong relationships in the issues covered and because both together provide the tools to manage the use-development-management continuum;
- RCSs generate Action Plans which are effectively the implementation of the strategy. These Action Plans in turn directly influence the LPPF and can have a direct input into planning scheme zones and overlays (e.g. Native Vegetation Plans forming the basis for Vegetation Protection Overlays);
- The LPPF establishes the basis for applying zones and overlays to land; and
- The Rural Zone, and its review, has a significant input to the LPPF.

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13 Sarah Nicholas, Chair of the North East Catchment Management Authority (CMA) speaking at the PIA Victorian Division Seminar “Water and Sustainability: Exploring the New Agenda” held at Beechworth 16 May 2003
In 2003, PIA Victorian Division held a workshop to summarise a strategy for closer integration between municipal planning schemes and regional catchment strategies – the results of this workshop are outlined in the following sections.

**How successful are Regional Catchment Strategies in helping with environmentally sound planning for land use and development?**

The East Gippsland region provides a good example of a strong relationship between East Gippsland Regional Catchment Strategy (1997) and planning process. All objectives and actions were put into joint natural resource and planning strategy approach but not all into Municipal Strategic Statement (MSS). An integrated approach by agencies (e.g. DOI and DNRE) predated the development of the release of the East Gippsland Regional Catchment Strategy in 1997. In addition, East Gippsland has a one to one relationship between the area covered by the Regional Catchment Management Strategy (RCS) and the East Gippsland Shire.

Provision of information on natural resources was seen as a major benefit of the RCSs. This includes both the Regional Catchment Strategies and the underpinning action plans (e.g. native vegetation, nutrient, floodplain, salinity etc). The RCSs have provided a sound conceptual and information basis for the inclusion of catchment planning in the State Planning Policy Framework. The RCSs identify issues and actions that encourage a wide range of players to work together. They provide opportunities for planning to be proactive in natural resource protection, through the adoption of key directions and actions into the local planning schemes. In this capacity, the RCS can function to guide the MSS reviews in natural resource issues and statutory planning decisions.

The renewed Glenelg Hopkins Regional Catchment Strategy (2003) is seen as a good example of how the RCS can be both a high level strategic document as well as a detailed implementation plan document. Overall, the RCS is an important document that is designed to identify and prioritise environmental issues in a selected region. As a strategic document, it does provide planners with information on government and community agreed environment priorities in a catchment based system.

**What are the problems?**

*The role of the RCS*

There is a need for greater clarity on the role of many Regional Catchment Strategies. The Glenelg Hopkins Regional Catchment Strategy 2003 – 2007 provides a good description of the role of an RCS:

The RCS is the primary planning framework for land, water and biodiversity in the region and is the overarching strategic document under which are nested various action plans, such as the River Health Strategy and Salinity Plan. It seeks to create close links with local...
government and influence the planning schemes under their control. It has been developed by the people living and working in the area in close consultation with the regional community, other regional organisations and State and Federal Governments. The development of the strategy reflects the commitment of natural resource management agencies across the region to the principles of integrated catchment management, sustainability and adaptive management.

Separation between land management, and land use and development

Historically there has generally been a lack of interaction between the various Victorian land management and planning agencies. The recent formation of the Department of Sustainability and Environment now brings together the land use planning and management functions. How this translates regionally to the role of the newly formed Department of Primary Industries is not clear at this stage.

In addition, too much attention and quite unreal expectation have been placed on the Planning and Environment Act regarding environment and land management issues. Review is needed of the functional and statutory relationships between the Planning and Environment Act 1987 and the Catchment and Land Protection Act 1994 and other environmental legislation and programs.

Planning system preoccupied with control emphasis

The planning system is seen as largely reactive, designed on an advocacy basis and concerned with control of land use and development. The regional catchment strategies are generally more pro-active and incentive based to encourage action for sound catchment management.

Lack of strong relationship between natural resource agencies, catchment management authorities (CMAs) and local government

CMA’s were first formed during the mid-1990s and tended to reflect a natural resource management (NRM) perspective patterned after the former Department of Natural Resources and Environment (NRE). The CMA relationship with strategic and statutory planning through Local and State Government levels was not as strong as it might have been. (A major issue that didn’t help with the development of the relationship with local government during the initial establishment of some of the CMAs was the proposal for a catchment levy. This was scraped after the election of the current government). With the recent formation of DSE, greater integration of NRM and planning functions is more likely. Instead of RCS objectives being facilitated through the planning-development approvals process, planning referrals from Local Government to NRM managers in various agencies are generally seen only as a formal statutory process rather than the opportunity to achieve catchment planning objectives through the provision of information.

In addition while many of the Environmental Officers and Environmental Planning Officers of Local Councils have worked closely with CMAs to develop and implement natural resource programs (e.g. Coast Care, Native Vegetation Management, Flood Management, Stream Improvements, Storm Water Management,) this is not necessary translating across to the planning process.
Natural resource management agencies have (at least prior to the formation of DSE) dealt predominantly with land management. In the area of farming the vast majority of land is zoned rural and the issues for natural resource protection revolve around land management. So it has been true that there has been limited understanding of the planning system (with the exception of Native Vegetation Retention clearance controls). The emphasis has been on catchment planning to work as partnerships between the government and the community to identify risks to long term sustainability of natural resources and implement best management practices.

A significant problem seems to be that traditional Town and Strategic Planners tend to speak a different language than the Natural Resource Managers, and vice versa. Town and Strategic Planners tend to be driven by zoning plans and rules of the Planning Scheme and what is permitted and what is not. On the other hand, Natural Resource Managers tend to be more focused on the protection or improvement of environmental conditions, and associated action. The RCS is also seen as dominantly as rurally orientated and as of reduced relevance to major section of the regional audience. There is a general concern that the presence and importance of the RCSs is not well acknowledged or used.

There are some instances where the RCS is seen as a potential impediment to planning decisions for the generation of economic development; here, the environmental component of the ‘triple bottom line’ is viewed as a potential threat. Action needs to be taken to expand awareness of the importance of achieving economic, social and environmental outcomes in modern management.

With the high workloads on statutory planners it was suggested that they do not have the capacity to allocate the time for consideration of complex environmental issues. The pressure on statutory planners is well recognised and in turn raises the issues of resources (both information and process) required to address the environmental issues. Are referral authorities providing the available environmental information? An initial environmental concern is in the area of proposed amendments dealing with whole subdivisions and larger parcels of land and the process for handling these and in particular the degree of support that is given to statutory planners through the referral process.

There is a tendency for planning documentation to be concerned with the specific area or site only rather than within the context of the catchment as a whole, as required by the SPPF. So there is a lack of a strategic catchment planning approach to environmental issues. There is also concern of
a lack of comprehensive natural resource information coming from CMAs in the planning process.

**Natural resource information from RCS and supporting documents not being used.**

This links strongly to the previous issue. There is a rapidly increasing level of information on natural resources being prepared through a range of action plans that underpin the regional catchment strategies. Good examples of this are native vegetation, salinity, river health, and pest plants and animals. This information does not appear to be being accessed for the planning process. This information is collected at different scales and may be useful at the strategic rather than detailed local level. There may also be concern about accuracy of natural resource information going from strategic to detailed local level. At the same time, much of the detailed GIS and other NRM data has not been well integrated for statutory and strategic planning purposes, let alone for catchment management planning at the sub-catchment and local community levels.

**Differing formats**

Different formats in documents result in lack of consistency. This exacerbates problems of use and interpretations of RCSs, particularly where councils may be in more than one CMA region. This also raises the issue of the lack of consistency in terminology between the RCSs and planning structure (e.g. objectives, opportunities and constraints, strategies, etc). This makes the translation from RCS to planning scheme more difficult.

**What can be done to improve the relationship of the Regional Catchment Strategies with the statutory process?**

A number of initial recommendations are detailed below. They are offered as constructive proposals, based on the extensive practical experience of those who participated in this workshop. It is recognised that each one would require further work and resources for implementation.

**Planning Schemes**


1. Incorporate reference to the natural resource issues from the regional catchment strategies and underpinning natural resource action plans into the Local Planning Policy Framework of each planning scheme. Showing which areas are covered by which RCS when multiple regions are involved.

2. Allocate a section of the MSS to the relevant RCS(s) both as a reference document and as a local environmental strategy. This section could also include a map

3. Apply a proactive approach to planning schemes taking the opportunities to incorporate natural resource information in the form of spatial data. One example of this is salinity where salinity overlays are being applied in planning schemes. The same applies for floodplains.
Opportunities currently exist for the inclusion of information on native vegetation from the regional vegetation management plans.

4. Translate information from RCS and underpinning documents to a scale of mapping of natural resource information useful to statutory planners and inclusion in municipal GIS systems.

5. Develop catchment planning strategic checklist for planners to encompass environmental issues based on SPPF Environment section and referral processes. (However, such a checklist must be given more respect than has been given to the Coastal Management Guidelines checklist in recent times.)

6. Increase use overlays covering land management issues such as salinity and native retention. Until these overlays are available, the referral process needs to be used more constructively.

7. Further progress the MAV project on ‘Integrating Local Land Use Planning and Regional Catchment Planning’.

8. Develop PLANET training programs, in conjunction with land management and referral authorities.

**Catchment Management Authorities**

9. Employ people with statutory planning qualifications in CMAs. This is seen as helping to address the ‘language’ issue or bridge the gap between natural resource managers and planners. This has already commenced and it would be useful to review the effectiveness of this approach in developing relationships between the RCSs and planning schemes.

10. Advance the role of the CMAs in providing natural resource advice in the statutory planning process (e.g. scheme amendments).

11. Increase the profile of the RCSs to the relevant local governments as each renewed RCS is launched. And promote regional natural resource issues to local government and other land managers. The CMA is seen as being the main organisation to provide leadership in this process but would need to be strongly coordinated with DSE, DPI and Water Authorities as major land and water managers.

12. Involve statutory and strategic local government planners more in the development of more ‘planner friendly’ formatting for environmental issues. This would help bridge the gap between natural resource managers and planners.

**Sub regional planning**

13. Promote a more sub regional approach applying and encouraging a local level integrated approach with partnerships between local government, agencies and community. This is currently happening under the Landcare Program and other programs but needs a strong and ongoing support infrastructure for long term success. An example is the Southern Otway Landcare Network’s Catchment Management Plan that integrates regulations, policies and regulations from the Commonwealth, State and Local Government levels in a form that can be clearly understood and implemented by local land owners in cooperation with the Corangamite CMA, Colac-Otway Shire and other State and Federal agencies.

**State Level Action**
14. Review the Planning and Environment Act to deal more with the relationship between land use and development and land management.
15. Apply a more directive role on natural resource issues from a statewide level. This includes the need to look at information from the National Land and Water Audit.
16. Develop clear targets for natural resource management. This is currently being developed as part of the Renewal of the Regional Catchment Strategies. There are three levels of targets being developed: aspirational, catchment condition and work targets.
APPENDIX 2: IMPROVING WATER CONSERVATION, AND THE MANAGEMENT OF SEWAGE AND STORMWATER, GREY AND BLACK WATER

The challenge is to systematically change the way we design, build and maintain urban areas – indeed, all residential, commercial and industrial (agricultural and manufacturing) land uses, and supporting infrastructure - so that water resources are managed in a sustainable way and water based pollution is reduced to within-environmental-capacity standards. We have to stop regarding water from stormwater pipes and drains as ‘waste water’ – water treatment processes can now regenerate water to high standards for completely safe reuse. Water sensitive urban design and integrated water management techniques are making the concept of ‘waste water’ obsolete.

Some Key Concepts Defined

Water Sensitive Urban Design (WSUD) is often confused with the terms Ecologically Sustainable Development (ESD) and Water Cycle Management. In fact, the three terms are all intrinsically linked as shown in Figure 3.1. According to Wong (2002) whereas ESD pertains to a wide spectrum of matters concerning sustainable development, WSUD pertains more specifically to the interactions between the urban built form (including urban landscapes) and the urban water cycle as defined by the three urban water streams being potable water, wastewater, and stormwater.

Water Sensitive Urban Design - Guiding Principles

The guiding principles of WSUD are centred on achieving integrated water cycle management solutions for new urban release areas and urban renewal developments linked to an ESD focus aimed at:

- reducing potable water demand through water efficient appliances, rainwater and greywater reuse
- minimising wastewater generation and treatment of wastewater to a standard suitable for effluent re-use opportunities and/or release to receiving waters

![Figure 3.1 Interactions between ESD, WSUD and the Urban Water Cycle](image)
treating urban stormwater to meet water quality objectives for reuse and/or discharge to surface waters
- using stormwater in the urban landscape to maximise the visual and recreational amenity of developments.

There are both technical and non-technical issues associated with the successful implementation of WSUD principles and practices and these are drawn out in the case studies.

**Potable Water Demand Reduction**

One of the core initiatives of WSUD is water conservation and reuse, thus making developments less reliant on external water sources. Conservation initiatives ensure the most efficient use of available water, whereas reuse initiatives ensure available water sources are used for the most appropriate purposes. Sustainable water resource management benefits both the life and operation of water supply infrastructure and allows better provisions to be made for environmental flows.

**Stormwater Management**

Best practice urban stormwater management aims to meet multiple objectives including:
- Providing flood conveyance
- Protecting downstream aquatic ecosystems
- Removing contaminants
- Promoting stormwater elements as part of the urban form.

A fundamental requirement of a stormwater system is to provide a conveyance system for safe passage of stormwater runoff to avoid nuisance flooding and flood damage to public and private property.

In contrast to this requirement, a stormwater system should also provide on-site stormwater retention to protect downstream aquatic ecosystems from increased flow volumes and rates associated with urbanisation. This also avoids increased flooding along downstream waterways and drainage systems and helps to maintain the hydrologic regime of the downstream system.

Typical urbanisation produces many contaminants that can be blown or washed into waterways and affect the health of streams and waterways. Best practice stormwater management provides for treatment of runoff to remove water borne contaminants to protect or enhance the environmental, social and economic values of receiving waterways.

Stormwater elements (such as waterways and wetlands) can become an asset for conservation and recreation in developments. Integration of stormwater conveyance and treatment systems into the overall urban and landscape design of urban residential areas is now an essential part of urban design and can lead to better accepted, more environmentally friendly urban areas. This is known as Water Sensitive Urban Design.

**Wastewater Management**

Modern wastewater management is a multi-objective activity. Wastewater management has the traditional objective of protection of public health, the contemporary objective of pollution control, protection of aquatic ecosystems, and the emerging objective of providing an important water resource to reduce potable water demand. For wastewater to represent a viable alternative
resource to potable water, it requires an appropriate level of treatment (for the intended reuse) and reasonably close proximity to the reuse site (to ensure delivery is feasible).

Wastewater treatment technology is no longer a restriction to most wastewater reuse opportunities. Currently available wastewater treatment technology can satisfy almost any reuse quality and provide very high standards of public health protection. However, the use of some artificial endocrine active chemicals in the food and pharmaceutical industries has the potential to limit wastewater reuse for potable purposes.

Wastewater treatment technologies can also provide a high level of protection to aquatic ecosystems. While sophisticated wastewater treatment systems may not be widely employed to protect aquatic ecosystems as their primary objective, the technology is available. An important element of wastewater management and aquatic ecosystem protection is the prevention of sewer overflows. The focus on the prevention of sewer overflows tends to be very site specific, but includes activities such as:

- Domestic water conservation and the reduction of wastewater flows
- Improved wet-weather performance of sewers (ie. less stormwater infiltration and reduced sewer overflows)
- Distributed primary treatment (local interceptors) and impervious small bore sewer systems

Current reuse of wastewater is largely limited by either treatment costs, to satisfy particular reuse requirements, or by the distance between the wastewater treatment plant and the reuse site. Greenfield sites offer more opportunities for reuse with initiatives such as:

- Local treatment plants and reclaimed water reticulation (third pipe) systems
- Distributed primary treatment (local interceptors) and small bore sewer systems.

These systems address the issue of proximity of reclaimed water sources and demand sites. In developed areas, sewer mining is a potential option to provide local reclaimed sources close to reuse sites.

Splitting the wastewater stream into greywater (laundry and bathroom) and blackwater (toilet and kitchen) can also increase opportunities for reuse. For example in developed areas, where other options for reuse are limited (eg. wastewater treatment is too far away) the use of greywater for toilet flushing becomes a useful retrofit opportunity to reduce potable water demand.

The main factor determining wastewater reuse opportunities is economic and revolves around the cost for treatment and distribution versus the low (and un-realistic) cost of potable water.\(^\text{15}\)

### Managing Chemical pollutants

Household and industrial chemicals have long posed environmental problems. Increasingly, hormones and medications are posing new ecological problems. Proposals to move to ‘fit-for-purpose water treatment must be accompanied by environmental and public health programs to reduce chemical pollutants, and set ecological capacity targets which acknowledge the chemical pollution carrying capacity of catchments.

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