Submission to Northern Region Sustainable Water Strategy Discussion Paper

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"The management of water will be based on an understanding that a healthy economy and society is based on a healthy environment."[1]
- First fundamental principle for water management in Victoria, Our Water Our Future White Paper (2004)

"Water used for environmental ends is not wasted: it is an investment in the future of an aquatic ecosystem and hence an investment in the communities that depend on it."[2]
-Victorian Catchment Management Council Catchment Condition Report 2007

Introduction

The Victorian Government has committed to writing Sustainable Water Strategies for five regions of Victoria, based on its underlying principle of water management quoted above. The Discussion Paper (DP) for the northern region, which includes all of Victoria's section of the Murray-Darling Basin, has been released for public comment.

The DP paints a disturbing picture of the outlook for water availability. In the last 10 years, inflows into the Murray River have declined by 33% and into the Campaspe by 67%. It shows that this decline has impacted more heavily on the environment than on consumptive users, with the volume of water available to the environment declining by 44% in the Murray and 84% in the Campaspe.

If these conditions and established water use patterns continue, the impact on the already stressed floodplain forests and wetlands of northern Victoria will be devastating. Floods will become so infrequent that we are in danger of completely losing our most loved River Murray icon sites like Barmah Forest, the largest red gum forest on earth, and the extraordinary Hattah Lakes. These sites are internationally recognised for their water bird populations, which will no longer be able to breed, and are visited by hundreds of thousands of people every year.

The development of the Northern Region Sustainable Water Strategy (NRSWS) presents an opportunity to look at the future of water use. It should be laying the ground work

[1] Our Water Our Future, Victorian Government White Paper. DSE 2004. p12
[2] Victorian Catchment Management Council, Catchment Condition Report 2007, p55

for achieving a future that supports both regional development and the environment, and that shares the risk of climate change equally between consumptive users and the environment. The DP, with its emphasis on maintaining reliability for irrigators, fails in these objectives and represents an abrogation of the Government's responsibilities under the Victorian Water (Resources Management) Act 2005.

The Victorian Government's obligations to the northern region's surface and ground water systems

The Victorian Government holds the northern region's river systems in trust on behalf of all Victorians. It has a duty to care for these river systems, and restore them to health for the benefit of future generations of Victorians. The Victorian Government does not have the right to allow any particular industry or vested interest to destroy the natural wealth of the region's river systems or pollute their waters.

The Victorian Government has clear obligations to restore the region's river systems to health. The Water (Resources Management) Act 2005 states that a Sustainable Water Strategy must provide for the strategic planning of the use of water resources. The NRSWS must:

- identify threats to the reliability of supply and quality of water for both environmental and consumptive uses

- identify ways to improve and set priorities for improving the maintenance of the environmental water reserve in accordance with the environmental water reserve objective

- identify ways to increase and set priorities for increasing the volume of water in the environmental water reserve to improve the environmental values and health of water ecosystems

- include an implementation plan, setting out timelines or targets for implementing key actions identified in the strategy

The Victorian Government is a signatory to the Intergovernmental Agreement on a National Water Initiative (NWI)[3]. The NWI requires signatories to:

- "implement firm pathways and open processes for returning previously overallocated and/or overdrawn surface and groundwater systems to environmentally-sustainable levels of extraction" (s.25 v, p.5)

[3] Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of NSW, Victoria, Queensland, South Australia, the ACT and Northern Territory. 2005.

- "identify and acknowledge surface and groundwater systems of high conservation value, and manage these systems to protect and enhance those values" (s.25 x, p.5)

- "water that is provided by the States and territories to meet agreed environmental and other public benefit outcomes … is to … be given statutory recognition and have at least the same degree of security as water access entitlements for consumptive use and be fully accounted for" (s.35 I, p 7).

The NRSWS DP states that "in many northern systems, the amount of water extracted from rivers and aquifers is higher than that which can sustain existing ecological objectives. This has resulted in the decline in the ecological health of our rivers and aquifers, as well as impacting on towns and industries that depend on reliable, high-quality water." (p22) This fundamental problem of existing overallocation is ignored throughout the rest of the DP and no proposals are made to deal with it.

The DP discusses the possibility of retiring entitlements to maintain reliability of supply for irrigators under climate change scenarios (p54) but nowhere does it mention retiring entitlement to improve river health or increase the EWR. This is a fundamental omission and must be rectified in the Draft Strategy.

General Comments

1. **River health objective**
   1.1 The DP has as its river health objective "help protect rivers and aquifers from the impacts of drought, climate change and other risks" (p2). This objective fails to meet the obligations of the Water Act and is a retreat from the objective of the Central Region SWS, developed in 2006, which was "maintain or enhance the health of rivers and aquifers". Environmental flows studies have been carried out for all the northern region's rivers using the rigorous FLOWS methodology. The basis of the NRSWS should be the implementation of the scientifically recommended flow regimes, a set of ecological objectives for each river system which go beyond leftovers from consumptive use and emergency watering of drought refuges, and the setting of targets and timelines to meet those objectives.

2. **Disproportionate impact of climate change on river systems**
   2.1 Tables 3.6 and 3.7 in the DP are key to the whole development of the NRSWS as they clearly show the disproportionate impact of climate change on river systems. In all northern Victorian basins, reduced inflows are impacting much more heavily on environmental flows than on consumptive use. Table 3.7 shows that if the conditions experienced in the last 10 years continue, the impact on consumptive use in the Murray, Goulburn and Broken Basins, while significant and a major concern for the irrigation industry, is relatively slight (2-23%) whereas environmental flows

will suffer very significant declines (44-66%). In the Loddon and Campaspe catchments the decline in inflows is so severe (70% and 66% decline respectively) that both consumptive users and the environment are severely affected and the differential is less. Even so, the decline in environmental flows in the Campaspe (84%) is much greater than the decline in consumptive use (45%). This year (summer 2008) the lower Campaspe has 20 times less water in it than in the most severe natural drought[4] .

2.2 This imbalance is a direct result of the way water is allocated in Victoria, which prioritises consumptive use over environmental flows. So long as this situation continues, the environment will continue to shoulder most of the risk of climate change. Bulk Entitlements are written as volumetric amounts for consumptive use rather than as proportional shares of the available resource. The problems that this method so allocating resources would cause for the environment in a scenario of declining inflows were foreshadowed in the Our Water Our Future White Paper (p29), which suggested that a redesign of entitlements could become necessary. Various models have been proposed to change the basis of the allocation framework to one based on shares of the available resource, where the environment would be given a formal entitlement to a proportion of all allocations of water to the shared pool.[5] The NRSWS would provide an ideal opportunity to assess these models, develop the most appropriate and rectify the current and future disproportionate impact of reduced inflows on the environment.

2.3 The DP proposes waiting until the statutory 15 year review of water resources to determine if there has been a disproportionate impact on the environment (p79). There is abundant existing evidence for this disproportionate impact given in the DP itself and in the CSIRO Sustainable Yields Project being conducted across the Murray-Darling Basin for the Commonwealth Government[6]. If current conditions continue, many of Victoria's most precious icon sites, including Ramsar listed wetlands, will be in irreversible decline in 15 years time due to lack of water (Appendix 5). Waiting for the statutory review will be too late to save them; the time for action is now in the development of the NRSWS.

3. A commitment to address overallocation

3.1 The DP skirts around the issue of overallocation within the existing framework in raising the possibility of retiring entitlements to maintain reliability in the face of declining inflows (p54) and in its discussion of the Basin Cap. However, nowhere

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[4] DSE figures provided in NRSWS Environment Working Group

[5] A Future Proofed Basin – A new water management regime for the Murray Darling Basin. M Young and J MCColl, 2008. http://www.myoung.net.au/water/droplets/A_future-proofed_Basin.pdf. See also submission to NRSWS by Prof Barry Hart.

[6] The Murray-Darling Basin Sustainable Yields Project, CSIRO http://www.csiro.au/partnerships/MDBSY.html

does it admit that the current level of extraction *before the impact of climate change* is unsustainable or the damage already done to northern Victoria's ecosystems. Ample evidence of this decline and continuing failure to turn it around is given in the Victorian Catchment Management Council (VCMC) reports of 2002 and 2007[7] and by the Index of Stream Condition[8]. Even the Murray Darling Basin Commission talks of 'human induced drought'[9].

3.2 There are many mechanisms to address over allocation, some of which are discussed by the Productivity Commission[10]: buying water on the open market to add to the EWR, other market based instruments (MBIs) such as tenders and auction schemes, licence attenuation and options contracts; retiring entitlements and water use licences, structural adjustment to assist social and land use change, lowering the Basin Cap, or setting Sustainable Diversion Limits for each catchment. The NRSWS should contain a full and frank discussion of all of these and how they can be used to best advantage for returning water to river systems. These mechanisms also provide options for irrigators to manage their own future and for farmers to move away from intensive irrigation. An economic analysis of the benefits and costs of early adoption of MBIs to make additions to the EWR rather than relying on increasingly expensive future water saving infrastructure projects would be very valuable. Construction and operating costs of infrastructure projects are likely to climb ever higher as fuel costs rise.

3.3 There is no evidence to date that the entry of governments into the water market distorts the market. To the contrary, government buybacks have been welcomed and many willing sellers have stepped forward.

For example:

- Coliban Water has bought 13.5GL from irrigators in the GMID to supply Bendigo, and is planning to remain in the market until it has acquired 22GL[11].

- Central Highlands Water has acquired 5GL for Ballarat in a similar way, and plans to remain in the market until it has acquired 10GL[12].

- The Living Murray tender in September 2007 to buy 20GL was over-subscribed and had to close after 4 weeks instead of the envisaged 11 weeks.[13]

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[7] VCMC report

[8] Index of Stream Condition, DSE 2004

[9] MDBC media release 21 Jan 2008 http://www.mdbc.gov.au/__data/page/29/EnvironWater-for-SA.pdf

[10] Rural Water Use and the Environment: The Role of Market Mechanisms. Productivity Commission Research report 2006

[11] NRSWS Consultative committee meeting, 25/2/08

[12] NRSWS Consultative Committee meeting, 25/2/08

[13] http://www.thelivingmurray.mdbc.gov.au/__data/page/15/MR-close_EoIs-pilotwate-130807.pdf

- NSW Riverbank has been buying water in the Darling Basin to return water to the Gwydir, Macquarie and Lowbidgee wetlands, tenders have been oversubscribed (in April 07 Riverbank had bought 15GL of 40GL offered[14])

- *Water for Rivers* has been active in the market, buying water to meet its Snowy Initiative commitments.[15]

- Trade has also been working in other directions, for example Goulburn Valley Water traded 4,327ML on the temporary market to irrigators in 2006/07[16].

These experiences suggest that trade on either the permanent or the temporary market would be an appropriate mechanism to acquire water for transfer to Melbourne through the Sugarloaf pipeline. Melbourne water authorities would be able to acquire the 75GL they require without undue difficulty or causing the type of disruption to the market feared by irrigators. The acquisition of water by this means over the next 2 years would obviate the need for Melbourne to use existing environmental entitlements before Food Bowl Modernisation Project (FBMP) savings become available. In addition, if Melbourne water authorities were allowed to purchase water for their requirements, then Melbourne's share of the savings from FBMP could be added to the EWR. (The cost to MW of buying 75GL at $2,500/ML would be $187.5million, less than the $300million they have committed to FBMP. Other funding e.g. from the federal government would then be needed to complete the FBMP but this approach is in line with the NWI/objectives of the National Water Act and funding could be achieved once differences between the Victorian and federal governments have been resolved)

3.4 On the other hand, the market in its existing form cannot be expected to provide all the water required for environmental purposes as the volumes required are greater than existing water trade, as described by Mike Young in his recent publication 'A Future Proofed Basin'17 other mechanisms will be required, for example retirement of entitlement as suggested by Goulburn Valley Environment Group (GVEG)[18,] where savings could be used to add to the Environmental Water Reserve (EWR) and to increase reliability of entitlements.

4. A vision for the future.

[14] EV Flow Foundation workshop, April 2007
[15] Minister for Water media release 5/3/08
http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/f847b63fc63a0137ca257403007555b1!OpenDocument
[16] http://www.gvwater.vic.gov.au/Publications/AnnualReport0607.pdf
[17] http://www.myoung.net.au/water/publications/A_future-proofed_Basin.pdf
[18] Comments by GVEG to NRSWS Allocation Working group

The DP invites comment on the question 'What does a successful future look like in the Northern Region?' (p88), yet it fails to give options for exploration or a set of clear social, economic and environmental objectives.

4.1 This is probably the most crucial question in the development of the NRSWS – do we want to continue 'business as usual' and the ongoing downward spiral of river and landscape degradation, or do we want to take a long, hard look at how we use water and what the consequences are for the regions' future, both ecological and economic? Trends evident over the last 10 years – the long drought, water trade, irrigation reconfiguration, increasing farm size and increasing corporate investment – have created a rate of change faster than many rural communities have felt able to cope with. Climate change will only accelerate these trends and the realization is beginning to dawn that standard farming practices and ecological risk management will no longer suffice. Other options will be required and these will have to recognise the fundamental importance of healthy ecosystems (OWOF principle 1).

4.2 The development of the NRSWS allows a unique opportunity to look at change of the type envisaged in the VCMC 2007 report where by 2025 Victoria is "covered with a mosaic of land uses that match capability. The mosaic includes a mix of intensive agriculture with reduced water, nutrient and energy inputs and land formerly used for farming instead producing ecosystem services, supporting rural lifestyles and nature conservation."[19] The development of carbon and ecosystem service markets will be crucial in supporting this type of change as they allow farmers alternative options to intensive agriculture for generating income. Social change is already occurring and if the region is to have a sustainable future and provide opportunities for its young people, it has to look for fresh opportunities that are less resource intensive. A vision for the future which is shared by the community is an essential first step in developing the NRSWS as it sets the framework in which the strategy will operate. The current approach takes the preliminary step of saying "this is what will be available in terms of resources" but fails to take an open approach to "what is required for a prosperous community and a healthy environment in the face of this decline?"

5. Additions to of the Environmental Water Reserve (EWR).

5.1 The existing EWR for the northern region consists mainly of passing flows and 'above cap' water. Of the 460GL of actual environmental entitlement that can be used at an environmental manager's discretion (which represents about 4% of average inflows), 57.6GL is high reliability water while the remaining 88% is low reliability (Table 2.6). In recent years when low reliability water has not been available and passing flows have been suspended, only the high reliability share (57.6 GL) has been available for environmental use in the whole of northern Victoria,

[19] VCMC report p57

and this has been subject to restrictions in allocation like every other high reliability entitlement.

This figure is in itself is misleading as it includes the 30GL of water held in Lake Eildon as a water quality reserve for the Goulburn and Broken Rivers. In 2006/07 7GL of this reserve was sold to irrigators and in 2007/08 10GL has been transferred to Coliban Water for Bendigo's urban supply. It is not yet known if Bendigo will require access to this water again in 2008/09, or if Ballarat may also require water from this source on completion of the 'Goldfields superpipe'. In 2009 and 2010, 10GL of this entitlement will be transferred to Melbourne Water for use in Melbourne[20], a situation which may continue until such time as Food Bowl Modernisation Project savings become available. This water reserve needs to be called on fairly regularly to relieve water quality issues, for example low dissolved oxygen levels in Broken Creek[21], and selling it off to other users is equivalent to abandoning an insurance policy.

The high reliability Murray Flora and Fauna Entitlement is also experiencing problems in its use. To date in the 2007/08 season, only 1.6GL of the 27.6GL entitlement has been used. This was for emergency watering of Murray hardyhead habitat, without which there was a strong probability that the fish would become extinct in Victoria. EWR managers experienced considerable difficulty in using their entitlement in the face of irrigator opposition.

5.2 There are no rivers in northern Victoria with more than 50% of their reaches in good condition (Index of Stream Condition 2004) and the need for additions to the EWR has never been more urgent. In particular more high reliability water is needed and the freedom to use and manage it even in dry years. The DP should recognize the recommendations of the Victorian Environment Assessment Council (VEAC) Investigation[22] into the watering needs of northern Victoria's red gum forests and wetlands. VEAC recommends that a major flood every 5 years is essential to maintaining floodplain health and the NRSWS should provide the vehicle for accessing and managing this water.

6. Improved management of the EWR.

6.1 The DP recognizes the need for more active, efficient and flexible management of environmental water (p78). This should include the ability of environmental mangers to buy water on the open market, multiple year carryover for all

[20] Food Bowl Modernisation Project Steering Committee Report, Nov 2007, p18 http://www.ourwater.vic.gov.au/__data/assets/pdf_file/0018/2295/FOOD_BOWL_MODERNISATION_PROJECT_STEERING_COMMITTEE_REPORT_PAGES_1-18.PDF

[21] See for example http://www.gbcma.vic.gov.au/default.asp?ID=177&post=127&tpl=news_full

[22] River Red Gum Forests Investigation Draft Proposals for Public Comment. Victorian Environment Assessment Council, July 2007.

environmental water (to build up towards major floods), tagging of all environmental water as 'green to the sea' to allow multiple use, and the freedom to use environmental water when required according to agreed objectives.

6.2 In 2007/08 the Victorian Water Minister qualified rights in all regulated Northern Region systems. The DP identifies the need to minimize qualifications in the future (p42). EV and ACF seek clarification of the definition and decision making processes around the declaration of a water shortage, the definition of temporary qualification and process of review, and the hierarchy of water needs including a definition of critical human needs. The transfer the environmental entitlement to an independent body such as the Victorian Water Trust would remove the exercise of ministerial discretion in qualification of rights. Under the Commonwealth Water Act which will become law in March 2008, environmental water purchased with Commonwealth funds will be held by an independent environmental water holder, and the NRSWS offers the opportunity for Victoria to align with this position.

6.3 This year, there are many stories of Goulburn farmers selling water early in the season for $800/ML then buying it back some months later for $300/ML. Timing is crucial for farmers, they can make money by making astute choices. Within a genuinely accountable governance framework, environmental managers could make similar decisions to buy permanent and temporarily sell water if it enabled them to meet the ecological objectives of an agreed environmental watering plan.

7. Integrated Infrastructure planning

7.1 Numerous infrastructure projects are already planned or underway in northern Victoria, in particular the major channel and pipeline projects of the Victorian Water Grid (including the Murray-Goulburn Interconnector) and the Food Bowl Modernisation Project (FBMP). Together, these projects add up to around $4billion investment in water infrastructure and provide a unique opportunity for the sustainable economic development of the northern region. The FBMP in particular was conceived as a project which would have considerable scope for regional renewal, but this emphasis is in danger of being lost as the focus shifts to implementation and the scramble to meet politically imposed timelines and bring the project in on time and on budget.

The whole planning process has been in inverse order. The NRSWS should assess resource availability and where and what sort of additions to the EWR are required, then decide what methods are necessary to achieve those objectives. The 'OWOF – The Next Stage of the Government's Water Plan' process[23] has completely reversed the order, announcing massively expensive infrastructure projects first and then leaving the NRSWS to deal with the aftermath. While the 75GL increase to the

[23] *Our water Our Future* The Next Stage of the Government' Water Plan. DSE, June 2007

Goulburn EWR arising from the FBMP is very welcome, there are other potentially less expensive ways this could have been achieved.

7.2 The limitations of modernisation projects need to be recognised. Flood irrigation remains a technique which has been around since the time of the Pharaohs, and while improvements can be made in the way that water is delivered to the paddocks and the operation of on farm infrastructure, these improvements beg the question of whether the technique is still appropriate in northern Victoria in the 21st century under a drying climate regime. Dairy farming in the Goulburn Murray Irrigation District remains dependent on large volumes of cheap water to grow pasture, and once the price of water exceeds a threshold value, the business will become uneconomic. It would be far better from all perspectives to help dairy farmers make changes to their irrigation practices now or else to help them exit the industry before they are forced out by economic circumstances. Planning of this eventuality will also avoid costly mistakes in upgrading supply infrastructure only to have demand patterns alter dramatically due to changing production and economic imperatives

ABARE has recently estimated that a 20% reduction in inflows in the eastern sector of the Victorian MDB will cause an 18% decline in dairy land use, compared to only a 1.3% decline in horticulture land use[24]. The same report estimates that the overall value of regional production will decline by 2.0% in this region. This relatively small decline in value reflects the migration of water to higher value uses which is a product of resource scarcity.

8. Integrated planning

8.1 The NRSWS intersects with a multitude of other policy and planning documents, in particular the development of the 'Land and Biodiversity in a time of Climate Change' White Paper, VEAC River Red Gum Investigation, Victorian River Health Strategy and Regional Catchment Strategies (all due for revision in 2009). All these documents have a major focus and impact on river health, yet few of these rates a mention in the DP and no attempt is made to align with their vision or objectives.

The VCMC *Catchment Condition Report 2007* makes clear that while significant money and effort is being invested by both state and federal governments, this effort is inadequate to halt the scale of landscape decline. A new framework is required to fully implement the goal of integrated catchment management The NRSWS affords an opportunity to provide this framework, and to provide better integration between land and water resource management and statutory planning.

9. Climate change action

[24] Australian Commodities March quarter 08.1 Murray Darling Basin economic implications of water scarcity. ABARE, 2008.

9.1 Awareness of climate change has increased dramatically in the last few years and the DP makes repeated reference to its impact on water resources. Mitigation of its effects is a key driver in the development of the strategy. However there is not a parallel urgency in dealing with the causes of climate change, which the DP does not discuss. It is also vague on what emissions from its actions will be or how they will be mitigated, in contrast to the Central Region SWS which had a strong and welcome commitment to greenhouse neutrality.

The DP fails to mention that agriculture is responsible for 15.7% of Victoria's net greenhouse gas emissions[25].The greenhouse impacts of the FBMP and Water Grid projects also need consideration and provision made for the supply of new sources of renewable energy to power these projects. Melbourne Water estimates that the Sugarloaf pipeline alone will generate direct CO^2 equivalent emissions of up to 100,000 tonnes pa. It has not yet announced how this energy requirement is to be sourced or what new generation capacity it intends to install.

One response to the challenge of climate change would be to set targets for the agricultural sector. The European Union, for example, has set a 20% greenhouse emissions target for agriculture.

10. Commitment to Second Step of The Living Murray (TLM)

10.1 The Victorian government explicitly committed to undertaking the NRSWS prior to completion of the First Step of the Living Murray 'to inform any further action on the River Murray'[26]. As outlined above, climate change is increasing the need for immediate action, as river systems are bearing a disproportionate impact of reduced inflows. As an example, CSIRO modeling for the Ovens system shows that end-of-system flows into the Murray will be reduced by 46% by 2030 under a high climate change scenario[27]. Since the base case contribution of the Ovens to the Murray system is 1677GL/year, this decline is equivalent to more than the total amount of water to be recovered by the First Step of TLM. Repeated across the river systems of the basin, the cumulative impact on the Murray will be devastating.

The CSIRO Sustainable Yields Project makes abundantly clear the need for urgent action. While the data presented in their reports is yet to be converted in sustainable yields, this work is clearly key in establishing a second step for TLM. Sustainable Diversion Limits will be set by the Federal Government as part of the National Water

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[25] Australian Government – Department of Environment and Water Resources 2007, National Greenhouse Gas Inventory 2005, p11, Australian Greenhouse Office
http://www.greenhouse.gov.au/inventory/2005/pubs/inventory2005.pdf

[26] Our Water Our Future, Victorian Government White Paper. DSE 2004. p55, Action 3.9

[27] Water availability in the Ovens. A report to the Austraklian Governmetn from the CSIRO Murray-Darling Basin Sustainable Yields Project.

Plan and it is likely that state governments will be responsible for determining how they will be met. This process should inform the Second Step of the TLM

It is time to acknowledge the shortcomings of the First Step actions to date (e.g. the lack of reliability of the water from the 'sales deal' which makes up a major part of Victoria's commitment but will only be fully available to TLM 2 years out of 100) and move beyond the reliance on infrastructure projects to meet TLM objectives. It is highly unlikely that the First Step will provide the promised 500GL on time in 2009. A more progressive approach using different methods for water acquisition (eg changing capacity share arrangements, MBIs) will be needed for the Second Step.

11. Water conservation targets for homes and businesses

11.1 The CRSWS set targets for per capita water use in Melbourne, Geelong, Ballarat and other towns in the central region for a 25% per capita reduction in water use by 2015, rising to 30% by 2020 (compared with average use in the 1990s). The 25% target has already been met in Melbourne[28]. While urban use accounts for only a small proportion of water use in the northern region, the absences of domestic water saving targets in the NRSWS is inexplicable. The same issues and opportunities for domestic and industrial savings occur across the state and an integrated approach is highly necessary to send the same message about conservation to all users and to avoid unfavourable comparisons and tensions between regions. The NRSWS should set the same targets for urban and industrial users in the northern region as the CRSWS set for Melbourne.

11.2 Another discrepancy with the central region is in the level of environmental contribution, established under OWOF, made by water corporations. Under current arrangements, urban water corporations were required to pay an environmental contributions equivalent to 5% of existing revenues, whereas rural water corporations were only required to pay 2% (DP p81). The contribution made by rural water corporations should be brought in line with the urban water corporations to increase the funds available for river restoration projects.

12. Development of an ecosystem services market

12.1 The Victorian Government has paid out over $200 million in drought relief in the last 2 years, and nationally the bill has been over $3billion since 2001[29]. While this money has undoubtedly helped farming families cope in the face of devastating drought, and recent trends in creating new employment opportunities for drought affected farmers are welcome, the question arises in the face of long term decline in water resources, is the current structure of drought relief the best use of government

[28] Minister for Water media release 28/9/07
http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/836372f511fdba6eca257366007d4b09!OpenDocument

[29] VCMC report p53

money? Philip Glyde of ABARE recently supplied an answer to this question in suggesting that current drought policies encouraged struggling farmers to stay on the land, run down their assets and accumulate debt[30].

12.2 One solution to this ever downward spiral is the creation of markets for ecosystem services. Ecosystem services can be defined as *Ecosystem goods (such as food) and services (such as waste assimilation) represent the benefits human populations derive, directly or indirectly, from ecosystem functions.* Under a market-based approach to ecosystem services, the face of traditional Australian agriculture would begin to change. The following table provides an example of what a farm of the future might look like if we started to invest in the services that ecosystems provide.

The potential mix of commodities that a future farmer could take to market:[31]

COMMODITY	% OF FARM INCOME	POTENTIAL CLIENT
Wheat	10%	World Market
Wool	15%	World Market
Timber	25%	Specialty and World Market
Carbon Credits	15%	Steel Company
Salinity Credit	10%	Cost Sharing for Catchment Management
Water Filtration Credit	20%	Urban Water Authority
Biodiversity Credits	5%	Philanthropic Trust

In this scenario, traditional agricultural outputs account for 50% of the total farm income. Areas of plantation, in combination with rehabilitated land, provide additional benefits through carbon credits, salinity mitigation, water filtration and biodiversity. It is interesting to note that only one of the proposed clients is the public sector - the cost sharing arrangement for salinity mitigation. These benefits are sold to different clients in a mature market place that has defined and quantified the flows of valued services from the farm.[32]

An analysis of the type of investment required to drive agriculture towards producing higher value product with lower inputs of water and energy and develop

[30] The Age 4/3/08 http://news.theage.com.au/drought-policies-hurting-farmers-abare/20080304-1wr8.html
[31] Taken from CSIRO Ecosystems Services project http://www.ecosystemservicesproject.org/html/markets/overview/need.html
[32] See 31.

markets in alternative commodities such as ecosystem services and carbon sequestration, as compared to the cost of supporting farmers in 'business as usual' and the consequences of this approach in terms of damaged ecosystems, would be extremely valuable

13. Tradeoffs between environmental assets

13.1 The DP canvasses the possibility of trade-offs in environmental assets if severe climate change becomes reality (p77). It fails to acknowledge the vast number of environmental tradeoffs that have already been made where environmental assets have been sacrificed for consumptive use.

An example of this kind of trade off is Psyche Bend Lagoon in northern Victoria. This billabong was maintained in reasonable health by irrigation drainage water. After a couple of years of monitoring this source of water was diverted in 1997 to minimize the load of salinity to the Murray. This left hypersaline groundwater as the only source of water for the lagoon when river levels were low. The impact was a twenty-fold increase in salinity in the billabong over 12 months, to levels in excess of sea water[33] A more recent impact is the oxidation of sulphur salts and the shift in water pH from over 9 to 5.1 (i.e. acidic). Iron has been released and the lagoon now carries a pink hue. The lagoon's ecological assets have been traded off against the narrowly defined economic benefit for the local community and downstream users, including Adelaide consumers. Decisions made by government to destroy Victoria's natural assets currently lack transparency and fail to include the value of ecosystem services and cultural heritage.[34]

Difficult decisions will need to be made in the future as water resources decline. But tradeoffs between environmental assets should not be the only option on the table. Tradeoffs of other sorts, for example between consumptive uses or export targets, should also be on the table so that the environment is not forced once again to shoulder the cost of climate change

14. Pricing

14.1 Much has been written about the need for water pricing to include the cost of externalities and the principle of full cost recovery has been adopted by COAG and the National Water Initiative. Yet the relevant on ground changes in pricing structures do not occur. The development of the NRSWS is yet another opportunity to put these principles into action.

[33] Gell, PA (2007) River Murray wetlands past and future. In Fresh Water – New Perspectives on water In Australia. MUP.

[34] Ibid p27

About Environment Victoria
Environment Victoria is the peak non-government, not-for-profit environment organisation in Victoria.

Our vision is of a sustainable and healthy environment for all Victorians. To us that means working with groups, governments, businesses and communities to meet the urgent environmental challenges facing our society today.

Environment Victoria has been helping Victorians reduce their ecological footprint for over 30 years. We are working to address the urgent issue of climate change, preserve our rivers and waterways for future generations, empower Victorians to live sustainably and reduce waste.

And, as the state's peak environmental group, we do so with the support of over 100 member organisations, representing thousands of Victorians.

www.environmentvictoria.org.au

About the Australian Conservation Foundation
The Australian Conservation Foundation (ACF) is committed to inspiring people to achieve a healthy environment for all Australians.

For 40 years we have been a strong voice for the environment, promoting solutions through research, consultation, education and partnerships. We work with the community, business and government to protect, restore and sustain our environment ACF is Australia's leading national not-for profit environment organisation and is funded almost entirely by individual membership and donations.

Since 1966, we have focussed on the most important and urgent environmental problems, seeking change with lasting political, economic and social support. ACF has played a key role in increasing protection for some of Australia's most outstanding natural assets including the Franklin River, Kakadu, the Daintree Rainforest and Great Barrier Reef.

www.acfonline.org.au

Submission Contacts

Juliet Le Feuvre, Healthy Rivers Campaign
Environment Victoria
[redacted]

Dr Paul Sinclair
Healthy Ecosystem Program Manager
Australian Conservation Foundation
[redacted]