



# environmental defender's office new south wales

Submission to Standing Committee on Natural  
Resource Management (Climate Change) -  
Sustainable Water Management Inquiry

March 2010

The EDO Mission Statement

*To empower the community to protect the environment through  
law, recognising:*

- ◆ *the importance of public participation in environmental  
decision making in achieving environmental protection*
- ◆ *the importance of fostering close links with the community*
- ◆ *the fundamental role of early engagement in achieving good  
environmental outcomes*
- ◆ *the importance of indigenous involvement in protection of  
the environment*
- ◆ *the importance of providing equitable access to EDO  
services around NSW*

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Submitted to:

Standing Committee on Natural Resource Management (Climate Change)

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## Executive Summary

The Environmental Defender's Office of NSW (EDO) welcomes the opportunity to provide comment to the Standing Committee on Natural Resource Management (Climate Change) Inquiry into Sustainable Water Management. The EDO is a community legal centre specialising in public interest environmental law with 20 years experience in litigating environmental matters and participating in environmental law reform processes.<sup>1</sup> This submission has been prepared with input from our in-house scientific officers.

The NSW Government committed to *The Intergovernmental Agreement on a National Water Initiative* (NWI) which was signed at the 25 June 2004 Council of Australian Governments (COAG) meeting. The NWI requires states, *inter alia*, to undertake clear action to ensure adequate and secure environmental flows through water management plans based on the best scientific information.<sup>2</sup> Despite NSW's commitment to the NWI, the EDO submits that NSW is not achieving its obligation to ensure secure water for fundamental ecosystem health and to provide security for environmental flows. The *Sustainable Rivers Audit* of river health of June 2008 found that the majority of rivers in the Murray Darling system show signs of long-term ecological degradation.<sup>3</sup> Moreover, since 1965, consumptive use in the Murray-Darling Basin has exceeded sustainable yields.<sup>4</sup> The EDO submits that environmental flows must be granted priority to ensure the long-term maintenance of ecosystems and to address over-allocation. Indeed, all consumptive and domestic uses of water rely on the ecological integrity of water-based ecosystems for their long term security.

There is clear scientific evidence that water-based ecosystems in NSW, which are already under threat from over-extraction and reduced flows, will be further strained by climate change. Climate change poses a significant challenge to water management in NSW as it will intensify the difficult task of returning ecosystems to sustainable levels of water extraction "while the climate bar keeps rising".<sup>5</sup> The EDO submits that there is a pressing need for the water management regime in NSW incorporate climate change projections into decision-making and to ensure fundamental ecosystem health through environmental flows.

The Basin Plan under the *Water Act 2007* (Cth) is due to be completed by 2011. NSW will have to ensure that new plans are consistent with the Basin Plan.<sup>6</sup> However, existing plans will remain in place until they expire after which they will have to be re-made consistently with the Basin Plan. This means that the Basin Plan will not address over-allocation, nor ensure adequate environmental flows before 2014 as most plans expire in that year. As a result of the above, NSW WSPs - which are not achieving the objective of ensuring fundamental ecosystem health - are effectively 'locked in' until 2014. The EDO submits that the NSW Government should be proactive and take steps towards creating new or amended WSPs that better align with the objects of the NWI, the *Water Management Act 2000* and the *Water Act 2007* prior to 2014, as this will place NSW in a good position to align with the upcoming Basin Plan.

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<sup>1</sup> This submission focuses on the NSW water regime in the context of climate change impacts on NSW water resources. For an extensive examination of NSW's implementation of the National Water Initiative framework see EDO NSW *Submission on the First Biennial assessment of the National Water Initiative – NSW Implementation*, 12 February 2007. Available at: [http://www.edo.org.au/edonsw/site/pdf/subs07/nwi\\_nsw070212.pdf](http://www.edo.org.au/edonsw/site/pdf/subs07/nwi_nsw070212.pdf) (8 March 2010).

<sup>2</sup> Clauses 35-36, Intergovernmental Agreement on a National Water Initiative, 2004

<sup>3</sup> <http://www2.mdbc.gov.au/SRA.html> (8 March 2010).

<sup>4</sup> Wentworth Group of Concerned Scientists (2008), *Submission to the Senate inquiry into the urgent provision of water to the Coorong and Lower Lakes*.

<sup>5</sup> Ken Matthews, National Water Commission, *Building resilience through water reform*, presentation given on 18 February 2010. Available at:

[http://www.nwc.gov.au/resources/documents/Aus21\\_Resilience\\_Presentation\\_17\\_Feb\\_2010.pdf](http://www.nwc.gov.au/resources/documents/Aus21_Resilience_Presentation_17_Feb_2010.pdf) (8 March 2010).

<sup>6</sup> Section 55(2) and s63(6), *Water Act 2007*.

Moreover, in addition to a sustainable and science-driven water management regime that appropriately allocates and prioritises environmental flows, the EDO submits that best practice conservation measures should be adopted in NSW to ensure the most efficient and environmentally sustainable uses of water and to encourage the community to use water more responsibly in light of climate change. Conservation actions broadly encompass four main areas innovative water use measures, demand management initiatives, water efficiency standards and the provision of water use information to the community.

The EDO will address the following terms of reference (ToR):

*b) Approaches to the management of water resources by all water users including provision for environmental flows (with particular reference to climate change impacts); and*

*c) Best practice in water conservation and management*

Our key comments and recommendations are:

### **ToR (b) - Management of water resources**

- The current state of Water Sharing Plans (WSPs) indicates that the NSW water management regime is not robust enough to comprehensively address climate change impacts on the Murray-Darling Basin. Ensuring environmental flows for ecosystem health is essential to create resilient ecosystems in light of climate change;
- The *Water Management Act 2000* should be amended to reinstate the need for WSPs to provide environmental flows *at all times*. This is essential to ensuring that there is adequate water for environmental purposes to sustain ecosystems;
- The Act must be amended to reinstate the requirement that environmental flows must be allocated first in accordance with the priorities contained in the Act. The method of allocating environmental water as the residue remaining after consumptive uses are granted should be abolished;
- New WSPs must address connectivity between surface water and groundwater to ensure there is no double counting of water and to enable integrated management of water resources;
- The NSW Government must invest in additional scientific research into connectivity between surface and ground water systems. This will support the adoption of an integrated management approach;
- All provisions in WSPs must be based on the best available ecological science and hydrological modelling. The process for developing WSPs should be consistent across NSW with all key information made publicly available;
- The Government should establish a central repository of data describing and reporting on environmental flows;
- Reporting of environmental flows should be made in the context of environmental water rules and related to the ‘performance indicators’ and ‘plan objectives’ contained in WSPs;
- Reports on environmental flows delivered must be made publicly available;
- The *WM Act 2000* should be amended to introduce a clear, transparent and scientific process allowing WSPs to be amended *at any time* where new scientific information comes to light or where there is a need to increase environmental flows; and
- There is a need to provide cultural flows to Indigenous people in WSPs to improve the spiritual, cultural, environmental, social and economic conditions of Indigenous people in NSW.

### **ToR (c) - Best practice water conservation**

- The NSW Government must encourage and implement innovative measures to ensure best practice water conservation and management. These measures should be in addition to a sustainable and science-driven water management regime that appropriately allocates and prioritises environmental flows;
- The NSW Government should reinstate guarantees of genuine public participation in the planning process and proper environmental impact assessment of water infrastructure projects in NSW;
- Demand management measures are needed to change consumer behaviour and encourage lower and more efficient uses of water. This is most effectively done through appropriate water pricing that reflects environmental, economic and social costs to encourage environmentally sustainable water use;
- NSW should move to full upper-bound pricing across the whole state as soon as possible;
- The BASIX scheme should be extended to include new commercial buildings. Furthermore, the targets should be reviewed periodically to determine whether new targets can be achieved;
- Providing water-use information to the community is a critical aspect of best practice water conservation. Information allows the community to make informed choices about their water use; and
- The NSW Government should undertake public education about the components of water pricing and promote education of consumers about environmental externalities and the true cost of the water they use.

## 1. ToR (b) Approaches to the management of water resources by all water users including provision for environmental flows

As the discussion below will demonstrate, the current application of the NWI in NSW is not ensuring the fundamental ecosystem health of river systems. Priority must be accorded to environmental flows on which all other uses rely. Water resources in NSW remain over-allocated and under significant pressure due to the dry period experienced since 2000. This situation is likely to worsen under climate change due to further reductions in water availability. A sustainable and robust approach is needed to ensure that all river systems are guaranteed sufficient and secure environmental flows to enable them to remain resilient in the face of climate change.

We provide recommendations on how to improve the NSW water management process below.

### 1.1. Climate change and water resources in NSW

Climate change is projected to have significant impacts on NSW's water resources. Annual rainfall is expected to decline over most of southern Australia accompanied by a decline in runoff of 9% by 2030, 15% by 2050 and 23% by 2070.<sup>7</sup> Moreover, up to 20% more droughts will be experienced by 2030.<sup>8</sup>

Reduced flows are already being experienced in NSW. During the period 2000-07 the average annual inflow in the Murray-Darling Basin river system was 4,150 GL/year, compared to the long-term post-1950 average of about 12,300 GL/year. In addition, annual stream flow in the Basin is likely to fall 10-20% by 2050 and 16-48% by 2100.<sup>9</sup> In terms of future projections, the Murray-Darling Basin will likely experience continuing low inflows to the middle of the current century and beyond.<sup>10</sup>

The CSIRO is of the view that the projected impacts of climate change should be considered in the development of future water sharing plans as the NWI indicates that water plans should consider the risk of climate change on the size of the water resource and the implications for sharing.<sup>11</sup> The EDO submits that despite the clear imperative to address climate change impacts and already over-allocated systems in NSW, current water sharing arrangements in NSW instead protect consumptive water users from much of the anticipated impact of climate change but offer little protection to riverine environments. Indeed, the CSIRO noted that:

*In the three highest water use regions (the Murray, Murrumbidgee and Goulburn-Broken) current water sharing arrangements would protect water users from much of the climate change impact and thus transfer a disproportionate share of the climate change impact to the environment.<sup>12</sup>*

The EDO submits that the current state of Water Sharing Plans (WSPs) indicates that the NSW water management regime is not robust enough to comprehensively address climate change impacts on the Murray-Darling Basin. A clear imperative is established to provide environmental

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<sup>7</sup> CSIRO 2008. *Water availability in the Murray-Darling Basin*. A report to the Australian Government from the CSIRO Murray-Darling Basin Sustainable Yields Project. Canberra: CSIRO at p26.

<sup>8</sup> IPCC 2007. Australia and New Zealand. In: Parry, M. Canziani, L, Palutikof, O. F, Van Der Linden, P & Hansen, C, E. (eds.) *Climate Change 2007: impacts, adaptation and vulnerability. Contribution of Working Group II to the fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, at 515.

<sup>9</sup> *Ibid* at 516.

<sup>10</sup> Steffen, W (2009) *Climate change 2009: faster change and more serious risks*, Canberra: Department of Climate Change at p16.

<sup>11</sup> CSIRO 2008. *Water availability in the Murray-Darling Basin*. A report to the Australian Government from the CSIRO Murray-Darling Basin Sustainable Yields Project. Canberra: CSIRO at p28.

<sup>12</sup> *Ibid* at 53.

flows for ecosystem health to ensure resilient ecosystems in light of climate change. This will be discussed in further detail below.

## 1.2. Current state of WSPs

Water Sharing Plans (WSPs) are the principal planning instrument under the *Water Management Act 2000* (NSW) for water resource management in NSW. They set rules for sharing water between environment and other users. Approximately 90% of water resources within NSW are managed by WSPs.<sup>13</sup> However, due to over-allocation and severe water shortages, 6 WSPs are currently suspended which means that the water sharing rules do not apply. 4 regulated WSPs are suspended. These are:

- Lachlan regulated river water source (suspended since it commenced in July 2004, currently a period of 5 years, 7 months);<sup>14</sup>
- Macquarie and Cudgegong regulated rivers water source (suspended since July 2007, a period of 2 years 7 months);<sup>15</sup>
- Murrumbidgee Regulated river source (suspended since November 2006, a period of 3 years 2 months);<sup>16</sup>
- NSW Murray and Lower Darling regulated rivers water source (suspended since November 2006, a period of 3 years 2 months).<sup>17</sup>

Furthermore, 2 unregulated WSPs are suspended. These are;

- Wybong Creek water source;<sup>18</sup>
- Ourimbah Creek water source (which is currently before the Minister for revocation of suspension).<sup>19</sup>

WSPs are scheduled to run for a period of 10 years from their commencement. Most WSPs for regulated water sources in NSW commenced in 2004 and are due to expire 30 June 2014. This includes all of the highly regulated river WSPs currently suspended in the southern Murray Darling Basin (MDB).

The fact that such plans are suspended indicates that the current water management regime is not working in NSW. The EDO is concerned about the cancellation of environmental water provisions in these areas. Indeed, the NWC noted in its 2009 report:

*The Commission is concerned that, with few exceptions, the delay or cancellation of environmental water provisions has not been based on an assessment of the risks to environmental assets; instead, the decisions have been driven by*

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<sup>13</sup> NSW Department of Environment, Climate Change and Water (2009), 'State of the Environment NSW, Chapter 6,' [http://www.environment.nsw.gov.au/soe/soe2009/chapter6/print\\_chp\\_6.1.htm](http://www.environment.nsw.gov.au/soe/soe2009/chapter6/print_chp_6.1.htm) (8 March 2010).

<sup>14</sup> NSW Office of Water (2009) 'Water Sharing in the Lachlan Regulated River Source, progress report 2004-2008' page 1. [http://www.water.nsw.gov.au/ArticleDocuments/34/crit\\_water\\_lachlan\\_20100201.pdf.aspx](http://www.water.nsw.gov.au/ArticleDocuments/34/crit_water_lachlan_20100201.pdf.aspx) 8 March 2010.

<sup>15</sup> NSW Department of Water and the Environment (2009) 'Water sharing in the Macquarie and Cudgegong Regulated Rivers Progress report 2004 to 2008,' page 4, [www.water.nsw.gov.au/ArticleDocuments/64/wsp\\_progressreport\\_macquarie.pdf.aspx](http://www.water.nsw.gov.au/ArticleDocuments/64/wsp_progressreport_macquarie.pdf.aspx) (8 March 2010).

<sup>16</sup> Bunty Driver, NSW Office of Water Media Contact, Deniliquin office, *Pers comm.* 4 February 2010

<sup>17</sup> *Ibid.*

<sup>18</sup> NSW Office of Water, Lyndal Betteridge Acting Manager of Water Planning, *Pers Comm* 29 January 2010.

<sup>19</sup> *Ibid.*

*a perceived overriding need for consumptive water. Furthermore, the Commission is concerned that such decisions are typically not made through a transparent process in which the costs, risks and benefits can be weighed.*<sup>20</sup>

Suspension of plans has meant that environmental allocations have been made on a more ad hoc basis, if at all. This is inadequate. By ensuring the integrity of ecosystems first and foremost, water sources will become more resilient to climate change and drought. Thus, new WSPs must ensure that environmental flows are prioritised, while existing WSPs should be amended to ensure that the environment takes precedence over consumptive uses. This is discussed in further detail below.

### 1.3. Legislative requirement for ‘environmental water’

One of the key requirements of the NWI is that environmental water allocations should be determined through statutory water sharing plans on the basis of the best scientific information to sustain the ecological values of water dependent ecosystems. The EDO submits that the legislative regime in NSW does not ensure that WSPs provide environmental water to sustain ecological values of ecosystems at all times.

The *WM Act 2000* originally had rigid requirements for WSPs to provide for environmental water at all times. Section 8(1) required environmental water to be provided that:

is committed for fundamental ecosystem health at all times, and may not be taken or used for other purposes (emphasis added).

However, the Act was later amended to remove the requirement for environmental water to be committed ‘at all times’. Now water may be committed ‘either generally or at specific times’.<sup>21</sup> This is a step backwards. As has been observed:

*It is arguable that the original terms of the Act created a statutory prescription of a basic EWA that was to be maintained at all times, which the 2004 amendment repealed in favour of a mere requirement that a management plan commit water for fundamental ecosystem health at a level that the Minister saw fit.*<sup>22</sup>

The EDO submits that the Act should be amended to reinstate the need to provide environmental flows at all times, while still allowing the timing of environmental flows to be managed. This is essential to ensuring that there is adequate water for environmental purposes to sustain critical ecosystems, and the communities and industries that depend on them.

### 1.4. Allocation of environmental water

The EDO submits that WSPs are not accurately implementing the requirements of the NWI and the priority for environmental water required in the *WM Act 2000*. Consumptive uses clearly take precedence in most WSPs in NSW. As the Wentworth Group has observed:

*existing allocation rules in many parts of the Basin still accord priority to consumptive uses, despite the fact this runs counter to the National Water Initiative and the Commonwealth’s 2007 Water Act.*<sup>23</sup>

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<sup>20</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p75.

<sup>21</sup> Alex Gardner, ‘Environmental water allocations in Australia’, (2006) 23 *EPLJ* 208.

<sup>22</sup> *Ibid.*

<sup>23</sup> Wentworth Group of Concerned Scientists (2008), *Submission to the Senate inquiry into the urgent provision of water to the Coorong and Lower Lakes* at p16.

In NSW environmental water is specifically defined in the *WM Act 2000* and accorded, in theory, the highest priority as against other water uses, except in times of drought.<sup>24</sup> However, certain WSPs, especially those for some key regulated rivers, use a rule that allocations for the environment will be limited to “water in excess of the long term annual average extraction limit” or water that is “left over” after consumptive uses have been allocated. This does not accord with the Act’s requirement to prioritise environmental flows in those systems (see *Nature Conservation Council of NSW v Minister [2005] NSWCA 10*). Amendments to the *WM Act 2000* in 2005, which were in response to the court proceeding, have further eroded the security of environmental water by indicating that water could be committed in 2 of 3 ways under section 8:

- (1A) A management plan is to commit water as planned environmental water in at least 2 of the following ways (whether by 2 separate ways or a combination of 2 ways):*
- (a) by reference to the commitment of the physical presence of water in the water source,*
  - (b) by reference to the long-term average annual commitment of water as planned environmental water,*
  - (c) by reference to the water that is not committed after the commitments to basic landholder rights and for sharing and extraction under any other rights have been met.*

This means that the method of committing environmental water from the residue of allocations for consumptive use is now law in NSW. Therefore, at present, the only remaining statutory requirement relating to environmental water is that a management plan must allocate water for both consumptive and environmental purposes.<sup>25</sup> This means that NSW has taken a step back in terms of the realisation of IGA Clause 35. Indeed in over-allocated systems what is ‘left over’ is often an illusory concept.

In our view, the recent amendments are inconsistent with the NWI and other parts of the Act which clearly establish that environmental flows are to take priority over consumptive uses. Indeed, commentators have argued that these amendments are arguably inconsistent with the statutory duties under section 5(3) to give environmental water first priority.<sup>26</sup> Section 9 of the Act stipulates:

- (1) It is the duty of all persons exercising functions under this Act:*
- (a) to take all reasonable steps to do so in accordance with, and so as to promote, the water management principles of this Act, and*
  - (b) as between the principles for water sharing set out in section 5 (3), to give priority to those principles in the order in which they are set out in that subsection.*

In Section 5(3):

- a) sharing of water from a water source must protect the water source and its dependent ecosystems, and*
- (b) sharing of water from a water source must protect basic landholder rights, and*
- (c) sharing or extraction of water under any other right must not prejudice the principles set out in paragraphs (a) and (b).*

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<sup>24</sup> *Water Management Act 2000*, s 60.

<sup>25</sup> *Ibid.*

<sup>26</sup> Alex Gardner, “Environmental water allocations in Australia”, (2006) 23 *EPLJ* 208 at 218.



This means that priority must be given to the protection of water sources and dependent ecosystems in NSW according to the rules in the Act. Therefore, the method of allocating environmental water as the residue of water after consumptive uses have been attributed is inconsistent with the overarching requirements of the Act.

The EDO recommends that the Act be amended to require that environmental flows are to be allocated first in accordance with the priorities contained in the Act. The method of allocating environmental water as the residue remaining after consumptive uses are granted should be abolished.

### 1.5. Groundwater and surface water connectivity

It is well recognised that surface and groundwater sources are fundamentally inter-connected and that it is required that states take into account their ‘connectivity’ to ensure sustainable management of the water resources.<sup>27</sup> However, the NSW regime has failed to systematically recognise this relationship. Indeed, Evans found that the connectivity between surface and groundwater systems has been largely overlooked with respect to water planning in Australia. This is apparent in NSW when few WSPs and Ground Water Sharing Plans acknowledge the connectivity between surface water and groundwater. Evans argues that the ‘lack of understanding of the links between groundwater and surface water has contributed to the nation’s present water shortage.’<sup>28</sup>

Separate processes lead to the potential for double counting. As Evans expresses it there is the potential that:

*we have inadvertently double accounted the same water; once as groundwater and a second time as the base flow of rivers. Double accounting has had the effect of reducing the security of supply to surface water users and effectively creating the illusion that we have more water to extract. This is cause for concern if water availability is reduced under a future climate.*<sup>29</sup>

The EDO submits that an integrated management approach needs to be taken in NSW that encapsulates surface water and ground water. Indeed, the NWC strongly advocated for an integrated water management approach. In its 2009 report the Commission stated that “unless it can be demonstrated otherwise, surface water and groundwater resources should be assumed to be connected, and water planning and management of the resources should be conjunctive”.<sup>30</sup>

The EDO submits that to reduce double accounting of water resources, NSW must invest in additional scientific research into connectivity between surface and ground water systems. This will support the adoption of an integrated management approach.

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<sup>27</sup> See, National Water Initiative, cl 23(x); Nevill, C.J (2009) ‘Managing cumulative impacts; Groundwater reform in the Murray-Darling Basin, Australia,’ *Water Resource Management* 23: 2605-2631, 2606; National Water Commission (2009), ‘Australian water reform 2009: Second biennial assessment of progress in implementation of the National Water Initiative’ National Water Commission, Canberra, page 36.

<sup>28</sup> Evans (2007) ‘The impact of groundwater use on Australia’s Rivers – technical paper,’ Land and Water Australia - <http://lwa.gov.au/files/products/innovation/pr071282/pr071282.pdf> p 4.

<sup>29</sup> Evans (2007) ‘The impact of groundwater use on Australia’s Rivers – technical paper,’ Land and Water Australia.

<sup>30</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p36.

## 1.6. Scientific basis for WSPs

The NWI requires that environmental water allocations should be determined through statutory water sharing plans on the basis of the best scientific information to sustain the ecological values of water dependent ecosystems.<sup>31</sup> Despite this requirement to ground all WSPs in science, the EDO submits that few plans are based on solid scientific information. The best available scientific material has not been used to address the environmental needs of water sources.

The National Water Commission in its 2009 report *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* found that many water plans are focused on the physical condition of the water resource, with limited description of the ecological condition.<sup>32</sup> Moreover, as above, environmental water needs are simply determined as the remaining water after consumptive needs have been determined in several WSPs rather than as a result of a scientific assessment of the needs of systems.

The 2007 National Water Commission (NWC) report *2005 National Competition Policy* reviewed the implementation of national water management reforms.<sup>33</sup> With respect to NSW environmental water requirements in WSPs that had commenced in 2004 the report found that;

- The 2004 WSPs were developed by the use of (i), existing daily hydrological modelling from the ‘Integrated Quantity and Quality Model’ and (ii), advice from technical and professional experts (from Water Catchment Committees on which independent scientists provided advice);<sup>34</sup>
- The 2004 WSPs ‘used flow analyses that were based on existing information,’ with no new research having been undertaken;<sup>35</sup>
- ‘No single or specific methodology was used in developing environmental water allocations, [but] rather, ... existing environmental flow objectives from 1998 were modified in light of expert opinions and verbal presentation’.<sup>36</sup> ‘NSW... [did] not provide information on the recommendations presented by scientists for any system’. NSW advised that ‘these recommendations were contained in briefings and verbal interchanges with scientists’ and such deliberations are in minutes of meetings which are not publicly available;<sup>37</sup>
- ‘A very basic level of scientific information was provided’ for the 2004 WSP development through various programs; “Environmental Scans” were conducted for the Gwydir and Namoi WSPs but not for earlier plans;<sup>38</sup>
- ‘Reduction of the long term annual average volume of extractions within a plan area was arbitrarily limited to ten percent as a result of the environmental rules imposed by the regulated river water sharing plans’.<sup>39</sup> This was to allow for consideration of socio-economic and regional development impacts; and

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<sup>31</sup> Clause 36, Intergovernmental Agreement on a National Water Initiative, 2004.

<sup>32</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p69.

<sup>33</sup> Commonwealth of Australia, National Water Commission (2006) *2005 National Competition policy assessment of water reform progress*.

<sup>34</sup> *Ibid*, p 2.18

<sup>35</sup> *Ibid*, p 2.18.

<sup>36</sup> *Ibid*, p 2.18.

<sup>37</sup> *Ibid*.

<sup>38</sup> *Ibid*.

<sup>39</sup> *Ibid* p 2.19.

- ‘There is little formal or publicly available information or record of the decision process;’<sup>40</sup>
- ‘There does not appear to be a formal method for deciding on environmental water allocations compared with other water allocations that is fully transparent’.<sup>41</sup>

The review’s conclusion was that the planning process in NSW had serious flaws including;<sup>42</sup>

- the ecological science used was inadequate to inform decision making in some water systems;
- NSW did not appear to have a coherent methodology for assessing environmental water needs and developing environmental water allocations;
- Planning lacked transparency in terms of amount and type of publicly available information; and
- NSW allocation arrangements were not supported as they do not demonstrate environmental allocations are within a range of outcomes that could be reached on consideration of best available science and robust socio economic evidence.

Although the 2009 report found that there had been some improvement due to the introduction of a macro-planning method that relies on a desktop review of the environmental assets in a planning area, the EDO submits that there is still a lack of consistency and transparency in the process. As a result, we recommend that all provisions in WSPs must be based on the best available ecological science and hydrological modelling. Furthermore, the process for development of future WSPs should be consistent across NSW with all key information made publicly available.

### 1.7. Reporting and monitoring of WSPs

The EDO is concerned about the lack of a robust framework for the reporting and monitoring of the progress of WSPs. The NWC report of 2009 found that:

*Most states did not have an independent audit of environmental outcomes. These audits are important to build public confidence in the delivery of environmental outcomes, and are a requirement of the NWI. The majority of water plans lack detailed monitoring, evaluation and reporting protocols linked to the delivery of environmental water and the intended outcomes.*<sup>43</sup>

In NSW, there is currently no comprehensive and centralised repository of published information reporting the current operational status of WSPs and water management in NSW. Reporting of environmental flows in NSW surface water sources is irregular and focused primarily on major regulated river sources in the southern Basin. Comprehensive reports presenting the amount of environmental water released in each water management area are not available.

The statutory reviews of regulated WSPs that commenced in 2004 for NSW were published in mid-2009. These reports provide limited information on environmental flows provided under the WSP for the water years 2004 – 2008 compared to the environmental water designated under the environmental water rules (specified in each WSP). This makes it difficult to identify what environmental water has been provided for in the context of the WSP environmental water rules.

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<sup>40</sup> *Ibid*, p 2.18.

<sup>41</sup> *Ibid*, p 2.20.

<sup>42</sup> *Ibid*, p 2.28.

<sup>43</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p64.

Review of the water sharing plans which strictly adhered to the ‘performance indicators’ and ‘plan objectives’ (identified in Part 2 of each WSP) would be more appropriate.

The EDO submits that the Government should establish a central repository of data describing and reporting on environmental flows, ideally in conjunction with other states. Reporting of environmental flows delivered should be made in the context of environmental water rules and related to the ‘performance indicators’ and ‘plan objectives’ contained in water sharing plans. Reports on environmental flows delivered must be made publicly available, in a timely manner.

### 1.8. Adaptive management

The EDO submits that the current legislative arrangements and WSPs are not flexible enough to provide for adaptive management of water sources. The *WM Act 2000* states that a WSP will operate for 10 years unless extended by the Natural Resources Commission.<sup>44</sup> Furthermore, plans must be audited at least every 5 years by a panel appointed by the Minister to ascertain whether their provisions are being given effect to.<sup>45</sup> Importantly, section 87 of the *WM Act 2000* requires compensation to be payable if entitlements are reduced in certain circumstances such as a result of a change in Government policy. This ensures that the NSW Government is reluctant to amend WSPs even where there is a scientific imperative, for fear of the financial consequences.

The Basin Plan under the *Water Act 2007* (Cth) is due to be completed by 2011. NSW will have to ensure that new plans are consistent with the Basin Plan.<sup>46</sup> However, existing plans will remain in place until they expire after which they will have to be re-made consistently with the Basin Plan. This means that the Basin Plan will not address over-allocation, nor ensure adequate environmental flows before 2014 as most plans expire in that year.

As a result of the above, NSW WSPs - which are not achieving the objective of ensuring fundamental ecosystem health - are effectively ‘locked in’ until 2014. Indeed, in 2007, the NWC issued a follow up report on its findings in 2005 and found that although they had been some good progress in relation to new WSPs little had been done to rectify the dire situation of the *older* 2004 WSPs.<sup>47</sup> The EDO notes that since both these reviews were conducted, there have been no gazetted changes to the WSPs of the major regulated water sources which are currently suspended except for the Murrumbidgee and NSW Murray Lower Darling Regulated Rivers WSP (where extraction limits were amended on 21 November 2008).

The EDO submits that the *WM Act 2000* should be amended to introduce a clear, transparent and scientific process allowing WSPs to be amended *at any time* where new scientific information comes to light or where there is a need to increase environmental flows. The EDO agrees with section 87 that changes based on increased scientific knowledge should not be compensated. Moreover, the NSW Government should be proactive and take steps towards creating new or amended plans that better align with the objects of the NWI, the *Water Management Act 2000* and the *Water Act 2007* prior to 2014 as this will place NSW in a good position to align with the upcoming Basin Plan.

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<sup>44</sup> Section 43A, *Water Management Act 2000*.

<sup>45</sup> Section 44, *Water Management Act 2000*.

<sup>46</sup> Section 55(2) and s63(6), *Water Act 2007*.

<sup>47</sup> National Water Commission (2007) *2005 National Competition Policy - follow up assessment of water reform policy, Water planning in New South Wales* at pp iii-iv.

## 1.9. Cultural flows

The NWI requires water access entitlements and planning frameworks to ‘recognise indigenous needs in relation to water access and management’.<sup>48</sup> The NWC, in its 2009 report found that:

*Indigenous water requirements appear to be rarely explicitly included in water plans. There is commonly an implicit assumption that environmental flows (typically rules-based environmental water) will serve as a surrogate mechanism to meet Indigenous social, cultural or spiritual requirements.*<sup>49</sup>

The Commission concluded that this approach does not enable Indigenous people to benefit from the economic development opportunities that might be provided by more secure water access entitlements. The Commission recommended further exploration of Indigenous needs in relation to water access and management, and mechanisms to meet those needs. The Commission proposes to initiate a national study on this matter.<sup>50</sup>

As part of the amending WSPs in light of climate change impacts, the EDO submits that these plans must provide cultural flows to Indigenous people. The concept has been described as:

*water entitlements that are legally and beneficially owned by the Indigenous Nations of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations.*<sup>51</sup>

Providing cultural flows for Indigenous people would be consistent with international agreements such as the *Declaration of Rights for Indigenous Peoples* (which Australia formally endorsed on 3 April 2009) that refer to Indigenous peoples rights to access “resources” which includes water as a clear cultural need.

## 2. ToR (c) Best practice in water conservation and management.

The EDO submits that the NSW Government needs to encourage and implement innovative measures to ensure best practice water conservation and management. Widespread implementation of best practice water conservation and management practices will be essential to help ameliorate the impacts of climate change. These measures should be in addition to a sustainable and science-driven water management regime that appropriately allocates and prioritises environmental flows. We submit that best practice conservation measures broadly encompass four main areas of action;

1. Innovative water use measures
2. Demand management initiatives
3. Water efficiency standards
4. Provision of community information

We discuss these in turn below.

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<sup>48</sup> Clauses 25, *Intergovernmental Agreement on a National Water Initiative*, 2004.

<sup>49</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p121.

<sup>50</sup> *Ibid.*

<sup>51</sup> Murray Lower Darling Rivers Indigenous Nations (MLDRIN) 2008 - *Cultural Water Brief*. Prepared by Environmental Defender’s Office (NSW).

## 2.1. Innovative water use measures

### *Unsustainable augmentation*

A sustainable diversification of water supplies means using water sources that do not have adverse impacts on natural water resources. These options include the capture and recycling of stormwater, the treatment and recycling of sewage and wastewater and rainwater tanks. The EDO supports appropriate research, investment and investigation into the viability of these sources of water.

However, the EDO submits that at present best practice conservation measures are not being applied in a strategic and informed manner in NSW. Unsustainable, short-term options have historically been implemented to augment water supply for urban areas, rather than a long-term, sustainable integrated water management plan for the catchments. An example of this is the desalination plant in Kurnell, Sydney, which was declared to be critical infrastructure under the new Part 3A of the *Environmental Planning and Assessment Act 1979*. This plant was subject to minimal community consultation and environmental assessment, despite significant concerns about its viability and environmental impacts, including climate change impacts due to energy use. Another example is the Clarence Valley and Coffs Harbour Regional Water supply project, which built a dam in Shannon Creek and a pipeline, opening up a secluded biodiversity hotspot that had 66 identified threatened species under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and NSW *Threatened Species Conservation Act 1995*. The dam was completed in 2009. The environmental impacts of this dam will be significant. There is currently no framework in NSW to stop unsustainable water supply augmentations like these. These damaging projects are also subsidised by the NSW Government and are widespread in NSW.

The EDO submits that the Government should reinstate guarantees of genuine public participation in the planning process and proper environmental impact assessment of water infrastructure projects in NSW. This is consistent with the Clause 69 of the NWI which requires 'parties to ensure that proposals for investment in new or refurbished water infrastructure continue to be assessed as economically viable and ecologically sustainable prior to the investment occurring'. Augmentation projects must therefore be assessed holistically in terms of their climate change and broader environmental impacts.

### *Metropolitan Water Plan 2006*

The *Metropolitan Water Plan 2006*, attempts to take an integrated approach to urban water management. The plan encompasses all urban sources including groundwater, sewage, greywater, deep water, stormwater and surface water. There is a large emphasis in the plan on the recycling of sewage effluent and stormwater, and the long-term sustainability of water sources for human consumptive and environmental use. The plan contains various targets and initiatives. For example, it promotes recycling schemes through the *Metropolitan Recycled Water Strategy* that aim to increase water recycling to 12% of greater Sydney's water needs by 2015 which is 70 billion litres of water every year. The EDO supports these initiatives. However, this is a 25 year plan. Future infrastructure planning decisions will demonstrate whether this integrated approach effectively feeds into decision-making and planning processes and whether it provides alternative sources of water under a climate change scenario.

## *Water Savings Initiative*

The Commonwealth Government has introduced a \$200 million programme entitled the *Water Savings Initiative* which provides funding for projects that improve urban water security through water saving initiatives that reduce demand on potable water supplies.

Recent funding has been provided for key infrastructure measures including water reuse and recycling schemes, pipeline replacement and leak reduction programs.<sup>52</sup> The EDO strongly supports such initiatives. Similar support should be provided by the NSW Government.

### 2.2. Demand management

Demand management measures are important as they have the potential to change consumer behaviour and encourage lower and more efficient uses of water which will become increasingly important under a climate change scenario. This is most effectively done through appropriate water pricing to encourage economically efficient and environmentally sustainable water use.<sup>53</sup>

The EDO submits that water must be adequately priced to reflect environmental, economic and social costs. That is, the price of water must include the unquantified environmental costs of water use that are not currently factored into pricing considerations. These “costs” include changes in habitat, water quality and ecological conditions, and increased salinity.<sup>54</sup> Water is not an unlimited resource. Therefore users should pay a price for water that reflects its scarcity. If environmental (and indeed social) externalities are not reflected in the price of water, then more water is used than would otherwise be the case if these costs were internalised. Proper pricing of water will reduce the use of water resources and will stimulate water efficiency measures at lowest cost.

Although we note that the NWC in its 2009 report concluded that NSW had achieved lower-bound pricing, it has still not moved to full upper-bound pricing.<sup>55</sup> The EDO submits that the Government should ensure that NSW moves to full upper-bound pricing as soon as possible. However, we note that it is important that a reasonable amount of water should remain accessible to lower socio-economic groups at a price that is affordable. This should take this into account in determining water pricing in disadvantaged areas.

### 2.3. Water efficiency standards

Legislated water efficiency standards are important to ensure that best practice approaches to water use are implemented. To this end, the EDO supports the Building Sustainability Index (BASIX) which requires new residential dwellings to adhere to water efficiency standards. The water targets in the scheme require dwellings to use 40 percent less water than comparable existing dwellings.

However, the EDO submits that the BASIX scheme should be extended to include new commercial buildings. Furthermore, the targets should be reviewed periodically to determine

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<sup>52</sup> <http://www.environment.gov.au/water/policy-programs/basin-communities/water-saving-projects.html> (8 March 2010).

<sup>53</sup> CSIRO (2001), *Pricing Water – a Tool for Natural Resource Management in the Onkaparinga Catchment*. Found at: <http://www.clw.csiro.au/publications/consultancy/2001/Onk2WaterPricing.pdf> (8 March 2010).

<sup>54</sup> K Hussey & S. Dovers (eds.) *Managing water for Australia- the social and institutional challenge* CSIRO Publishing at 78.a

<sup>55</sup> National Water Commission (2009) *Australian water reform 2009 – Second biennial assessment of progress in implementation of the National Water Initiative* at p165.

whether new targets can be achieved. We note that the water savings targets have not been increased since the scheme commenced.

#### 2.4. Community information

The EDO submits that providing water-use information to community is a critical aspect of best practice water conservation. Information allows the community to make informed choices about their water use.

##### *Water Efficiency Labelling Scheme*

The Water Efficiency Labelling Scheme (WELS) sets standards for water-using appliances and requires mandatory labelling of certain products. The Commonwealth enacted the *Water Efficiency Labelling and Standards Act 2005*, which is to be enacted by each jurisdiction as part of the agreement. The *Water Efficiency Labelling and Standards (NSW) Act 2005* adopts the Commonwealth Act of the same name and commenced in April 2005.

WELS product determinations are required to include the standards for the products, setting out any registration and labelling requirements and any water efficiency and general performance requirements to apply to each type of product. The scheme mandates that specified household water-using products be registered and labelled for their water efficiency. Products currently included in the scheme are washing machines, dishwashers, showers, taps, toilets and urinals. The EDO strongly supports these requirements.

We note that a 5 year review of the WELS is underway at a federal level to determine the appropriateness, effectiveness and efficiency of the scheme.<sup>56</sup>

##### *Mandatory disclosure*

The EDO notes that the Council of Australian Governments has agreed to a *National Strategy on Energy Efficiency* released by Australian, state and territory governments in July 2009.<sup>57</sup> One of the initiatives is the introduction of a legal requirement for vendors to provide information regarding the energy, water and greenhouse performance information to buyers and renters, starting with energy efficiency in 2011. The EDO strongly supports this initiative but recommends that the provision of water information should be provided in 2011 alongside energy efficiency.

##### *Public education*

EDO supports public education about the components of water pricing and better education of consumers about environmental externalities and the true cost of water resources. We therefore recommend that the NSW Government undertakes a public education program about the components of water pricing.

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<sup>56</sup> <http://www.environment.gov.au/water/wels-review/pubs/terms-of-reference.pdf> (8 March 2010).

<sup>57</sup> <http://www.environment.gov.au/sustainability/energyefficiency/buildings/> (8 March 2010).