



environmental defender's office new south wales

Submission on the First Biennial assessment of the
National Water Initiative – NSW Implementation

February 2007

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 across NSW.*

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Executive Summary

A previous review undertaken by the Australian Network of Environmental Defender's Offices Inc (ANEDO) found each jurisdiction is at slightly different stages of implementation of the National Water Initiative (NWI) and the agreed COAG outcomes. Notwithstanding this, some broad patterns were noted.

The majority of jurisdictions have implemented measures in relation to: interception activities, creation of public registers, identification of environmental assets, appointment of water managers, and water efficiency labeling.

Many states have made progress, but have not fully implemented measures regarding: providing public information on technical data underpinning plans, creating perpetual water entitlements as a defined share of the water resource, including risk assessment in water entitlements, identifying overallocated systems, including strategies for sustainability in water plans (but not targets and timeframes in all jurisdictions), providing for trading between rural and urban zones, and considering all water sources in integrated urban water management.

There are certain outcomes which have not been adequately addressed by the majority of jurisdictions. These include: providing firm pathways to recovery for overallocated systems, integrating management of surface and groundwater systems, establishing and implementing national standards for measuring, monitoring and reporting systems; establishing flexibility in legislation to provide for adaptive management of water resources, ensuring water has equal status to other users, guaranteeing security of title; and reducing barriers to delivering water for environmental or other public purposes.

This submission focuses on **New South Wales implementation**. For information on implementation plans in other jurisdictions please refer to the relevant state and territory EDO offices (see: www.edo.org.au).

In summary, while NSW has substantially implemented actions to achieve NWI objectives, for example, regarding: the creation of perpetual water share entitlements separated from land title, public register of water dealings, identification of environmental assets in plans, appointment of water managers, passing legislation on water efficiency labeling, and establishing a framework for trade between urban and rural areas. However, we note deficiencies in implementation regarding: standards for measurement, monitoring and reporting, ensuring legislative flexibility for adaptive management, ensuring the environment has at least an equal status to other users in practice, removing barriers to delivering water for environmental and other public purposes, and undertaking best practice consultation with all stakeholders.

We note the *Implementation Plan for the National Water Initiative 2006* ('Implementation Plan') introduction states:

The NSW NWI Implementation Plan demonstrates that many NWI actions are already significantly progressed in NSW. In addition to the various nationally coordinated studies and implementation processes, actions of the NWI requiring significant implementation activity within NSW are:

- completion of the water planning and licence conversion process across NSW for the remaining 20 percent of water use;
- implementing indefeasibility of water title;

- regulating floodplain harvesting;
- further development of the water title register;
- steps to facilitate increased water trading;
- further development of the water accounting framework; and
- knowledge and capacity building efforts.

This submission addresses the 8 elements of water management as identified in the NSW Implementation Plan:

- i. **Water access entitlements and planning framework;**
- ii. **Water markets and trading;**
- iii. **Best practice water pricing;**
- iv. **Integrated management of water for environmental and other public benefit outcomes;**
- v. **Water resource accounting;**
- vi. **Urban water reform;**
- vii. **Community partnerships and adjustment; and**
- viii. **Knowledge and capacity building.**

Summary of Recommendations

i. Water access entitlements and planning framework

- Clarify the definition and extent of over-use of water sources in NSW.
- Implement comprehensive and transparent on-going evaluation of the impacts of the water sharing plans (WSPs) in addressing overuse.
- Develop a comprehensive public strategy for dealing with the significant number of sleeper and dozer licences in NSW that, if activated, are likely to place additional pressure on systems that are already over allocated.
- Remove institutional barriers to delivering water for environmental and other public benefit outcomes.
- Update WSPs to expressly refer to the health of the water source, address risks to the water source, identify the knowledge base upon which the plans and detail clear pathways to correcting over-allocation.
- Establish and publicly consult upon a coherent methodology for assessing environmental water needs, to better inform planning.
- Enhance flexibility to better provide for adaptive management of water sources.
- Prioritise government commitments to buy back water for stressed overallocated systems.
- More clearly define risks under the risk assignment framework, for example, in relation to climate change and policy changes.
- Implement strategies to overcome significant barriers that face many indigenous communities, preventing effective engagement in natural resource management issues, including establishment of indigenous reference groups for all CMAs.
- Establish measures to address interception activities such as floodplain harvesting and plantation forestry that are currently not adequately covered by existing water access entitlements or WSPs.

ii. Water markets and trading

- Ensure that all trading registers are easily accessible on the internet, contain comprehensive detail, and facilitate transparent transactions.
- Maintain necessary checks and balances on trading in order to ensure environmental safeguards.
- Examine and report on the effective use of adaptive environmental water conditions on water access licences.
- Coordinate and facilitate the ability of NGOs to purchase licenses for environmental purposes.
- Increase government investment in the RiverBank program.

iii. Best practice water pricing

- Implement measures to move toward upper bound cost recovery in rural systems.
- Clarify that information on subsidies is not subject to commercial in confidence exemptions.
- Reinstate guarantees of genuine public participation in the planning process and proper environmental impact assessment of water infrastructure projects in NSW, consistent with the IGA para 69.
- Undertake public education about the components of water pricing and promote education of consumers about environmental externalities and the true cost of the water resource.

iv. Integrated management of water for environmental and other public benefit outcomes

- Amend the Implementation Plan to better define “environmental outcomes” and address the lack of detail about triggers for when it is “deemed necessary to recover water for environmental outcomes.”
- Undertake research and consultation as an urgent priority to address identified knowledge gaps.
- Amend WSPs to more accurately reflect the priority of environmental water against other water users.
- Amend the objectives, strategies and performance indicators in WSPs, to ensure that the objectives and performance indicators are capable of meaningful measurement and evaluation.
- Undertake research and consultation as a priority to address the concern that NSW has not been able to demonstrate that the best available scientific evidence was used to allocate environmental water.
- Clarify firm pathways to recovery in over allocated systems, based on the best available science.

v. Water resource accounting

- Address the identified knowledge gaps that are likely to hinder comprehensive accounting. These include: lack of definitions around the extent and rate of interactions between surface and groundwater systems.

- Establish research and consultation to increase the level of knowledge on the impacts of climate change on catchments and the hydrological cycle to underpin comprehensive water accounting.
- Develop and implement comprehensive standards for measurement, monitoring and reporting systems as a priority.
- Ensure ongoing monitoring of WSPs against performance indicators following mid-term reviews.

vi. Urban water reform

- Extend application of the BASIX scheme.
- Implement the Metropolitan Recycled Water Strategy, and explore storm-water re-use.
- Increase the target of leakage reduction clauses in Sydney Water operating licence to at least 50%.

vii. Community partnerships and adjustment

- Ensure that the scientific methodology underpinning planning decisions is accessible by the public to increase confidence in the scientific veracity of water planning decisions.
- Ensure that CMA consultations more comprehensively involve all stakeholders, including indigenous and environmental stakeholders in addition to rural landholders.
- Ensure that the focus of regional panels is equally on environmental outcomes as well as socio-economic impacts, to redress bias toward the latter consideration in NSW.

viii. Knowledge and capacity building

- Undertake detailed consultation on scientific analysis underpinning plans.
- Identify and address information gaps regarding environmental water needs and hydrological interactions, and environmental impacts as noted.
- Direct resources at comprehensively measuring environmental impacts and for example, interactions between surface and groundwater systems. This is essential for accurate medium and long-term planning.
- Include greater independent fresh water ecology expertise alongside the irrigation research and development corporations which are involved in research alliances and programs.
- Update environmental information levels in current plans, for example, to include all wetlands of international importance (Ramsar Wetlands) and of national importance.

i. Water access entitlements and planning framework

Actions set out in the NSW Implementation Plan regarding element (i) relate to: implementation of the Framework, defining and implementing water access entitlements, water to meet environmental and other public benefits, water plans based on characteristics and components of Schedule E, addressing overallocation as per NCC commitments, implementing risk assignment framework, addressing indigenous water issues, and interception activities.

Implementing the framework

We note that completion of water planning and licence conversion is still required for 20 percent of water use in NSW. Action 1 refers to the aim to “substantially complete plans to address any existing over-allocation for all river systems and groundwater sources” consistent with the 1994 COAG commitments. However, we note that this action is currently undermined and is being delayed by serious knowledge and data limitations. The Implementation Plan states “the definition and extent of over-use and the on-going evaluation of the impacts of the plans to address overuse, are areas where existing knowledge is limited” (page 7). This concern is discussed further below in relation to element (vii).

Water access entitlements

In NSW, perpetual water entitlements been created that are separated from land title and defined as a share in the available resource. Under the *WM Act 2000* an access licence entitles the holder to *specified shares* in the available water within a specific water management area.¹ An access licensee’s share of the water resource is determined by the Minister from time to time through the making of available water determinations.² Further, the Act states that an access licence only ceases to be in force on the date it is cancelled, effectively ensuring that the water entitlements are perpetual.³ Hence, water entitlements in NSW are not proprietary in the sense that they run with the land, but are in the nature of a share entitlement. This is in line with NWI requirements.

In terms of whether water entitlement holders are guaranteed security of title against other persons once registered, NSW is incrementally working towards indefeasibility of title. Water licences are already registered alongside land title. However, at present the Register does not offer indefeasibility of title. That is, it cannot be relied upon to legally guarantee security of title as against other persons who claim an interest in the entitlement. The Government has indicated that it will provide a model of indefeasibility of title within one year for existing licences under WSPs.⁴ Indefeasibility will be rolled out incrementally according to the following chronology:

Group A- Indefeasibility of title is projected to commence in June 2007.

Group B- Indefeasibility of title is projected to commence in June 2009.

Group C- Indefeasibility of title is projected to commence in June 2011.

¹ *Water Management Act 2000*, section 56.

² *Water Management Act 2000*, section 59.

³ *Water Management Act 2000*, section 69.

⁴ Gardiner, K *Water Trading – Comparison between NSW and WA Models* (2005) p.4, *Draft NSW Implementation Plan for the National Water Initiative*- Department of Natural Resources (2005) at 14.

Group D- Infeasibility of title is projected to commence in June 2011.

NSW is therefore making progress in achieving Clause 59 of the IGA.

We reiterate our previous concerns (raised in the Combined environmental NGO submission to the NCP Assessment) that there are a significant number of sleeper and dozer licences in NSW that, if activated, are likely to place additional pressure on systems that are already over allocated. NSW needs to further clarify how it will address this issue. This issue has been noted in the 2005 *National Competition Policy Assessment of Water Reform Progress* (NCP Assessment), and the Commission indicates that long-term average annual extraction limits are a simplistic solution and may not comprehensively address the issue (page 2.7).

Providing water to meet environmental and other public benefits

The EDO submits that there are institutional barriers to delivering water for environmental and other public benefit outcomes.

The *Water Management Act 2000* contains provision for planned and adaptive environmental water, and the NSW Government has submitted that these provisions ensure priority is given to the supply and protection of water for the environment and other public benefits. The use of water access licences to provide water for environmental or public interest outcomes seems to be largely contingent upon funding being available for the government to purchase the water from licence holders. The legislative arrangements for adaptive management are not flexible as they are locked in for 10 years. This is a barrier. In areas where there is no WSP, water for environmental flows or other public purposes is managed by licence conditions and cease to pump orders.

There is serious doubt as to whether WSPs are accurately implementing the priority of environmental water provided for in the legislation. As noted in our previous submission, water sharing plans (WSPs) do not reflect the same priority for environmental water as required in the legislation, largely due to the fact that the planning process in many areas has not satisfactorily identified environmental requirements of systems prior to making trade-offs for consumptive supply (see NCP Assessment page 2.9). Concerns have been raised regarding inadequate identification of environmental requirements of systems prior to consumption trade-offs being made; environmental water not being fully accounted for; and affording water for the environment at least the same security as water for consumptive use under an access licence.⁵ The NWC concurred that the process used in NSW water planning to determine environmental water amounts is inadequate; and notes that the security of environmental water under flows rules is dependent on the compliance regime enforcing the rules.

Water Sharing Plans

The current water sharing plans (WSPs) were gazetted in 2002/2003, prior to the commencement of the NWI. Therefore, they have not been developed to specifically

⁵ See: *Submission to the National Water Commission: Water Reform Assessment Framework 2005* - 29 September 2005. Joint submission by the Nature Conservation Council of NSW, the In land Rivers Network, the Australian Conservation Foundation, and the Environmental Defenders' Office (NSW).

respond to the criteria in Schedule E. Whilst some of the criteria are addressed (for example, all plans specify objectives, describe the water source, provide rules for extractions and place conditions on water entitlements), the vast majority of the gazetted plans do not expressly refer to the health of the water source, address risks to the water source, identify the knowledge base upon which the plans are made nor provide pathways to correcting over-allocation.

NSW intends to incrementally roll-out its implementation of the NWI initiatives. It has created four groups of current and future water sharing plans that will cover all water in the state and implement the NWI provisions.⁶ These groups are:

Group A - This group comprises the 31 Water Sharing Plans (WSPs) that have already commenced. These plans cover the most stressed river systems in NSW, some individual unregulated rivers and 5 coastal groundwater systems. They account for approximately 80% of surface water use and cover about 25% of total licences.

Group B - This group encompasses WSPs for 5 major inland groundwater systems. The systems covered are the Upper and Lower Namoi, Lower Gwydir, Lower Macquarie, Lower Lachlan and Lower Murrumbidgee alluvial aquifers. These plans are due to commence in 2006/07.⁷ They cover a further 10% of licensed water users.

Group C - This group consists of 39 macro plans. Macro plans are a standard set of water sharing rules that are developed and extended among catchments with similar classifications. These plans are expected to commence in July 2007. The rationale is to expedite the transitional process as formulating individual WSPs per catchment will take a further 10 years. Under Group C, 700 unregulated river sources will be grouped into 27 WSP areas. Further, 88 groundwater sources have been grouped into 12 ESP areas based on common characteristics.⁸ These 39 plans will account for around 45% of NSW's licences.

Group D - This group contains 17 individual WSPs with specific water sharing rules. These cover the remaining 20% of licences. They are to be completed and commenced progressively from 2006 to 2008.

In the regulated river WSPs the consumptive allocations have been reduced by various amounts depending on the region. Although entitlements are now only a share of the water available, many systems were over allocated in the range of 100-300%. Therefore, the extent of reductions will reduce, but not resolve, the problem of over-allocation.

In groundwater systems, a decision was initially made to reduce all aquifer entitlements by a standard amount depending upon which basin they were in. The decision was not based upon a scientific assessment, nor was there any consideration for levels of historical extraction. Rather, it represented a government policy decision. After a legal

⁶ Draft NSW Implementation Plan for the National Water Initiatives (2005)- Department of Natural Resources, NSW Government at 12.

⁷ These plans commenced in October – November 2006, with exception of the Lower Lachlan plan which is yet to commence.

⁸ Draft NSW Implementation Plan for the National Water Initiatives (2005)- Department of Natural Resources, NSW Government at 12.

challenge to the Lower Murrumbidgee Groundwater WSP in which deficiencies in this method were identified, commencement of the 6 Group B groundwater plans was delayed to revisit the process for reducing entitlements. The revised WSPs use history of extraction to determine reductions in entitlement, which favours active users. The plans aim to reduce entitlements so that extraction returns to 100% of the sustainable yield by 2016. Thus, for the next 10 years these groundwater systems will continue to be over-allocated, placing considerable stress on these ecosystems.

There is currently one WSP in NSW that relates to both surface and groundwater. This is for the Dorrigo Plateau Surface Water Source and the Dorrigo Basalt Ground Water Source.⁹ Also, NSW is currently drafting a Greater *Metropolitan Region Water Sharing Plan*. According to the Department of Natural Resources, metropolitan plans for groundwater and surface water will be released together. The inter-relationship between groundwater and surface water within these plans will need to be examined closely. However, it is acknowledged that there is only limited scientific information about the interconnection between surface and groundwater sources. As a general rule, the interactions between these systems are not well known and not specifically managed.

Current WSPs do not manage interception activities. It was anticipated that management plans that addressed such activities would be prepared. However, this has not yet been done. Plans are in place to develop macro plans for floodplain harvesting by July 2007.

Addressing overallocation

NSW has made some progress in identifying over-allocated systems (see Section 7 *WM Act 2000*). Under the NWI, overallocation refers to situations where with full development of water access entitlements in a particular system, the total volume of water able to be extracted by entitlement holders at a given time exceeds the environmentally sustainable level of extraction for that system.¹⁰ There is also a definition of ‘over-used’ which refers to situations where the total volume of water actually extracted for consumptive use in a particular system at a given time exceeds the environmentally sustainable level of extraction for that system. Overuse may arise in systems that are overallocated, or it may arise in systems where planned allocation is exceeded due to inadequate monitoring and accounting. The NSW *WM Act 2000* does not include a definition of overallocation.

The current WSPs do not use the term “overallocated” to describe the river and groundwater systems. The WSPs for the river systems generally indicate that they are “stressed” and that “relative to the natural flows in the water source, the potential demand for extraction by water extractors is high,” ie, if everyone pumped water at the same time in periods of low flows, there would not be enough water for all existing water extractors and the environmental needs of the water source.¹¹ The WSPs for the groundwater systems generally indicate that they are at “high risk of possible over extraction.” It is unclear in the WSPs whether the evaluation of overallocation or potential overallocation was based on modelled data, or whether the assessment was simply qualitative.

⁹ National Water Commission, ‘2005 National Competition Policy- assessment of water reform progress’ at 2.2.3.

¹⁰ Schedule B(ii).

¹¹ See: Department of Sustainable Natural Resources (May 2003) A guide to the Water Sharing Plan for the Wybong Creek Water Source.

The DNR website states that for “some groundwater systems in NSW, the water allowed to be extracted (that is, the current licensed entitlement) is more than the sustainable yield of the aquifer.” Six of the major inland alluvial aquifers are listed, however it is unclear whether this is an exhaustive list of overallocated groundwater systems. The DNR website does not provide a list of over-allocated surface water systems.

The Government has prepared two reports that are relevant to this issue: the *Stressed Rivers Assessment Report* and the *Aquifer Risk Assessment Report*. Both reports were prepared by the DLWC in 1998, prior to assent to the *WM Act 2000*. The *Stressed Rivers Assessment Report* categorizes unregulated rivers in NSW according to stress and potential future stress, based on hydrologic conditions, environmental health, and water usage (including potential full development of all water entitlements). The report also identifies sub-catchments with special conservation value.

The *Aquifer Risk Assessment Report* classifies groundwater systems in NSW according to the level of risk from over extraction and contamination. The assessment reports rank surface and ground water systems according to “stress” and “risk”, however it is not clear within the reports which of these systems are actually overallocated.

Despite this progress, concerns remain.

The EDO submits that 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.¹² The Commission is required to review the plan before year five against state-wide natural resource targets and standards and make recommendations.¹³ Section 87 of the *WM Act 2000* requires compensation to be payable if entitlements are reduced in certain circumstances.¹⁴ The Minister is able to make available water determinations for each water management area which sets the available water for consumption in any water year. This decision is based upon available water in the system (inflows, expected rainfall etc). Theoretically, the environment is to be given first allocation.¹⁵

In our opinion, these legislative arrangements are not flexible enough to provide for adaptive management. The overall management plan is locked in for at least 10 years with only a mid-term review and with compensation payable for changes in entitlements during that time. This does not provide an incentive, or indeed a capability, to manage water sources in shorter timeframes.

The focus of the NSW Implementation Plan is to address overuse through long-term extraction limits (page 21), however, as noted there are concerns that this approach is simplistic, that pathways to reduce overallocations are unclear in the plan and are significantly hindered by lack of knowledge and data on impacts of overuse. Consistent with our previous submission, there is still a lack of provision for fundamental ecosystem health (as noted in the NCP Assessment page 2.6). In this context, the 2004 competition payment suspension was warranted due to the lack of public information on the science underpinning the plans (NCP Assessment page 2.11). We agreed that these concerns

¹² Section 43A.

¹³ Section 44, *Water Management Act 2000*.

¹⁴ See Question 10 for a detailed analysis of NSW’s risk assignment framework.

¹⁵ See Question 8 for a detailed discussion of environmental water allocations.

have not been fully addressed and support the continued suspension of \$13 million of NSW's 2004-5 competition payments. The NCP Assessment is clear that the ecological science used to underpin the development of some plans was inadequate, there was no coherent methodology for assessing environmental water needs and developing environmental water allocations, and there was a lack of transparency and public information (page 2.28). The Commission concluded that information provided by NSW on reform progress "does not comprehensively demonstrate that NSW' environmental allocations are within a range of outcomes that could reasonably be reached on consideration of the best available science and robust socio-economic evidence" (page 2.28).

In addition to addressing these shortfalls, there is an urgent need for government commitment to buy back water for stressed overallocated systems. In this context, we support an expansion of the RiverBank program.

Risk assignment

NSW has recently amended the *WM Act 2000*¹⁶ to establish a risk assignment framework that will apply to current WSPs by 2014, once the existing plans finish their first term. The amendments fully implement the NWI risk assignment initiative, and as noted in the Implementation Plan (page 24) are in fact "more generous to licence holders than the NWI Risk Assignment Framework." This is consistent with the predominant focus on socio-economic impacts evident throughout the NSW reform process.

Under the risk assignment framework in place before the amendments, licence holders would bear the risk in relation to reductions occurring because of climate change, drought or bushfire, and also reductions stemming from improvements in scientific knowledge about water sustainability. Reductions due to government policy were compensated for by the government. After 2014, changes due to natural events are still borne by the licence holders. However, reductions due to increased knowledge will only be borne by licence holders for the first 3 per cent of reductions.¹⁷ Above this figure, the loss will be borne by the NSW and Commonwealth governments in various shares.¹⁸

Although NSW has succeeded in implementing the NWI risk assignment framework, the risks themselves are not clearly defined. Clarification is needed about the meanings of 'policy', and 'climate change'. Furthermore, the compensation provisions only apply to areas where water sharing plans have commenced. All other licence holders still fall under the *Water Act 1912*, which has no compensatory provisions. However, NSW has certainly made progress in this area and has prima facie met its obligations under Clauses 48 and 49 of the IGA.

Indigenous water issues

The Implementation does not include detail on strategies to overcome significant barriers that face many indigenous communities, preventing effective engagement in natural resource management issues. The EDO is also concerned that the Plan indicates only 3

¹⁶ Section 88A.

¹⁷ *Water Management Act 2000*, s88AA(6).

¹⁸ *Draft NSW Implementation Plan for the National Water Initiative*- Department of Natural Resources, 2005.

of 13 Catchment Management Authorities (CMAs) have established indigenous reference groups (page 28).

Interception activities

The *WM Act 2000* provides for WMPs to be developed that deal with water use, drainage management and floodplain management. These have not been drafted yet. Indeed, the NSW Government has acknowledged that floodplain harvesting is not adequately encompassed by the provisions of the *WM Act 2000*.¹⁹

The requirement for interception approvals under the *WM Act 2000* include:

- *Farm Dams* – all interception must be in accordance with Harvestable Rights Orders made under the *WM Act 2000*.²⁰ The Act sets a basic level of extraction above which interception must be licensed. There is no restriction on the size of storage that may be constructed. The specifications are that the owner must be within a harvestable rights area, and the Act specifies a proportion of average runoff that may be captured from their property. For example, the Harvestable Rights Order pertaining to the Eastern and Central Division states that the landholder has the right to capture 10% of the average regional rain water run-off by means of a dam.²¹ However, dams can only be constructed on 1st or 2nd order streams.
- *Floodplain harvesting* - NSW is in the process of developing a Floodplain Harvesting Policy. The policy was meant to have been completed by December 2005 but is not yet forthcoming. Parliamentary debate indicates that the policy is an integral part of the government's flood strategy.²² Under the policy, floodplain harvesting can only be carried out with a licence and an approval of works. This is not currently covered by existing water access entitlements or WSPs. After the policy is released, Water Plans for floodplains will be developed. These will be in the form of macro plans and are due to be completed by July 2007. In conjunction with this, NSW has formed a relationship with Queensland's Department of Natural Resources and Mines to deal with floodplain harvesting in the NSW/QLD Border Rivers System.
- *Plantation Forestry* - NSW is implementing an assessment of the significance of large-scale forestry on aquifers and catchments. The *NSW Implementation Plan 2006* indicates that this process will commence in 2007 and will be completed by 2011. If this is realised then NSW will be in line with the NWI requirement that states must institute measures to address water interception by land use change no later than 2011.²³ The impact of plantations has received less attention than

¹⁹ *NSW Implementation plan for the National Water Initiative*, 2006 at 32.

²⁰ Section 54.

²¹ Order under Section 54, Harvestable Rights- Eastern and Central Division, New South Wales Government Gazette No. 40, 31 March 2006.

²²

<http://www.parliament.nsw.gov.au/Prod/Parlment/HansArt.nsf/5f584b237987507aca256d09008051f3/426f14a8682dcfacca2571920019a6c3!OpenDocument> (8 September 2005).

²³ National Water Commission, '2005 National Competition Policy- assessment of water reform progress' at 2.2.6.

dams and floodplain harvesting, and for example, there is incomplete detail regarding action and methodologies in the Implementation Plan (page 31).

Element (i) – Summary of recommendations

- Clarify the definition and extent of over-use of water sources in NSW.
- Implement comprehensive and transparent on-going evaluation of the impacts of the water sharing plans (WSPs) in addressing overuse.
- Develop a comprehensive public strategy for dealing with the significant number of sleeper and dozer licences in NSW that, if activated, are likely to place additional pressure on systems that are already over allocated.
- Remove institutional barriers to delivering water for environmental and other public benefit outcomes.
- Update WSPs to expressly refer to the health of the water source, address risks to the water source, identify the knowledge base upon which the plans and detail clear pathways to correcting over-allocation.
- Establish and publicly consult upon a coherent methodology for assessing environmental water needs, to better inform planning.
- Enhance flexibility to better provide for adaptive management of water sources.
- Prioritise government commitments to buy back water for stressed overallocated systems.
- More clearly define risks under the risk assignment framework, for example, in relation to climate change and policy changes.
- Implement strategies to overcome significant barriers that face many indigenous communities, preventing effective engagement in natural resource management issues, including establishment of indigenous reference groups for all CMAs.
- Establish measures to address interception activities such as floodplain harvesting and plantation forestry that are currently not adequately covered by existing water access entitlements or WSPs.

ii. **Water markets and trading**

Actions set out in the NSW Implementation Plan regarding element (ii) include: establishing publicly accessible and compatible trading registers, compatible institutional and regulatory arrangements to facilitate trade, and removing trade barriers.

Trading registers

NSW has satisfied the requirements of Clause 59 of the NWI. NSW has established a Water Access Licence Register (“Register”) to record all water access entitlements and trades. The Register is administered by the Department of Lands and is in a similar format to the registration of dealings in land managed by LPI. Information about

permanent trades is available on an individual licence basis through the Register and information about temporary trades is available through an on-line service.²⁴

The Register is intended to provide users, traders and the general public with adequate information about the volume of water traded and prices paid to facilitate the expansion of the market. Access licence certificates are issued to licence holders as proof of title and once these are registered they enable property-like dealings with entitlements under the licence. The following matters related to water licences or holders must be recorded on the Register:

- any Ministerial action;
- any dealing or assignment;
- any caveat lodged to restrict dealings with an interest;
- any security interest by way of a mortgage or charge over the licence or holding;
- any devolution (ie: the passing of an interest through a will);
- any alteration of a co-holders tenancy arrangements; and
- other matters prescribed by regulation.²⁵

There are also plans in place to establish an adaptive environmental water register to record adaptive environmental water access licences. This register is intended to be publicly available. Further, any trading of such licences will be recorded in the register. This register is slated for commencement by late 2007.²⁶

Facilitation of trade

The Productivity Commission has recently examined the efficiency and timeliness of the administrative process for permanent and temporary trades.²⁷ It found that administrative processes can act as a constraint to trade. This is due to:

- State government fees and charges;
- Approval time lags; and
- Brokerage fees.

The Commission found that fees, approval times and brokerage fees vary depending on where trades occur and who does the trading.

A NSW case study of the costs involved is provided in the following box.

Trading in the Murrumbidgee, New South Wales

For a parcel of 100 megalitres valued at \$30 per megalitre, the value of the trade, before fees and tax are paid, would be \$3000. If the trade was to proceed using Waterexchange:

- application fees of \$75 would be payable to the New South Wales Government
- brokerage fees of \$75 would be payable to Waterexchange, equal to 2.5 per cent of the value of the sale (minimum of \$50, maximum of \$750)

²⁴ <http://www.lands.nsw.gov.au/Records/PubRegisters/WaterAccessLicenceReg.htm>

²⁵ *Water Management Act 2000* section 71A.

²⁶ Draft NSW Implementation Plan for the National Water Initiatives (2005) - Department of Natural Resources, NSW Government at 74.

²⁷ Productivity Commission, 'Rural water use and the environment: the role of market mechanisms.' (2006), Australian Government at 62.

• income tax would be payable on the proceeds of the transfer.
Hence, total fees would amount to \$150 and the total amount that would transfer to the seller would be \$2850 (excluding income tax). In this example, fees amount to 5 per cent of the total value of the trade.

(Sources: South Australian Department of Water, Land, Biodiversity and Conservation, pers. comm., 20 July 2006; Waterexchange 2006; The Allen Consulting Group 2006.)

The Commission observed that approval times for seasonal allocations are typically short, varying from one to seven days. For the trading of water entitlements, this varies from 1 week to up to 6 months.²⁸ The Commission concluded that although these times do not appear unreasonable, there is scope to reduce the assessment times in some regions.²⁹

The Commission believes that an electronic trading system which incorporates all government approvals, could facilitate quicker and more transparent water trade and could reduce transaction costs. The EDO agrees, providing the system is transparent and trackable.

Removing trade barriers

The Business Council of Australia addresses these barriers in its report:

There are numerous direct and indirect barriers to the permanent and temporary trade in water allocations. The NWI itself says that trade should only be allowed to occur ‘... up to an annual threshold limit of 4% of the total water entitlement of that area, subject to a review by 2009 with a move to full and open trade by 2014 at the latest ...’ Exit fees are imposed on water leaving an irrigation district. Trading restrictions exist in the structure of local irrigation companies and/or the rules attaching to particular local catchment water plans. There is also a range of difficulties associated with how to recognise water products in different districts in terms of water flow reliability: — Some states, for example, wish to use ‘exchange rates’ (fix the conversion rates that convert water from one area to the equivalent of that from another), while others wish to use ‘tagging’ (whereby water retains its original source reliability characteristics). These barriers have been very effective. The Productivity Commission recently observed that: ‘Despite the ability to trade more widely, the volume of permanent water trading has remained relatively insignificant ...’

To illustrate the third barrier listed above it is probably best to look at NSW arrangements. Most of the catchment water in NSW is owned by irrigation companies, in which the local landowners have shares. It is these companies which control the movement of water, rather than the individual through private property rights to the water. These company structures are an impediment to achieving the NWI objectives. Not only does this situation affect the ability to meet the NWI objectives in NSW, it also makes it difficult to use water as security for lending to enhance agricultural development. All of these barriers led the NWC in 2005 to determine a ‘... failure to meet specific COAG commitments to open up interstate trade in permanent water entitlements in the southern Murray–Darling Basin where penalties are recommended for NSW, Victoria and South Australia ...’ To illustrate the depth of these issues the three Governments agreed in May 2006 to allow trade in response to the abovementioned NWC penalty. In announcing this, however, the Governments put extensive qualifications on the agreement. Before trade can occur a number of issues need to be settled:

- Competitively neutral and fair exit fees and institutional arrangements across jurisdictions
- Agreements to allow effective trade between all three states.
- Finalising process, administrative and technical arrangements including achieving sufficient consistency in measures for dealing with salinity impacts.

²⁸ Ibid at 76.

²⁹ Productivity Commission, ‘Rural water use and the environment: the role of market mechanisms.’ (2006), Australian Government at 65.

Once these matters are agreed ... government(s) will consult with stakeholders to ensure that the proposed market arrangements are practical and commercial ... The final arrangements will then be subject to government approval in each jurisdiction'. **Clearly there are significant obstacles to permanent trading, both within and between states.** They seem to occur for two reasons:

- a concern that if water entitlements are traded out of an area that the irrigation assets (weirs, delivery and drainage channels, pipes, pumps) will need to be paid for by a diminishing number of irrigators who will face higher costs (the so-called 'stranded assets' issue); and
- a concern that if water entitlements are sold there will be less economic activity in an area, which will affect the lifestyle of those in the community.³⁰

Specific comments made in relation to NSW, are summarised below.

Potential and actual barriers to trade include:

- Ministerial consent is required for permanent transfers that involve a change in location of extraction and environmental considerations;
- Rules in WSPs and Dealings Principles must be complied with for transfers;
- Access licence dealings principles prohibit transfers from unregulated to regulated rivers. The rationale for this relates to the need to manage potential disruption in planned levels of extraction in regulated water sources. The NWC are of the opinion that this is too restrictive;
- Specific rules in WSPs may also operate to limit certain trading. For example, in the Murrumbidgee WSP temporary trades in high security allocations are prohibited after 1 September and in general security after February to ensure the environmental objectives;
- Trading rules within regulated WSPs do not allow conversion from high security to general security unless there has been a corresponding or larger transfer the other way. The rationale is to prohibit a net increase in general security access shares to protect reliability of supply for general security users. The NWC also suggests this is too restrictive;³¹
- In some irrigation areas where co-ops hold bulk water access licences there are restrictions on trade out of the district. This ranges from prohibition of permanent trades out, to the prescription of minimum entitlements that must be retained on each property or maximum level of entitlements that may be traded out. Interim annual limits on trade into and out of irrigation areas is up to 4%. Penalties exist for corporations that do not allow trades up to that threshold under *WM Act 2000*.

The EDO supports checks and balances on trading in order to ensure environmental safeguards. The public benefits of necessary environmental limitations on trading outweigh private interests in hastening transactions.

In terms of whether NSW regulatory arrangements enable 'the environment' to be a legitimate player in the water market, NSW has made some progress. Under the *WM Act 2000* planned environmental water is not licensed, is managed by the Department of Natural Resources, and is *not* available to trade. Adaptive environmental water conditions on water access licences exist, but DNR staff have expressed concerns about their effective use. These are to be managed by CMAs. In order for non-government organisations to access and manage environmental flows they need to buy licences. These

³⁰ Business Council of Australia, *Water Under Pressure- Australia's man-made water scarcity and how to fix it.* at 45.

³¹ Page 2.36.

have the same status as any other licence ie: unless dedicating water to CMAs, there are no rules about how the water is applied other than on an ad hoc basis. There is no coordinated management approach.

As noted by the NWC,³² NSW is formulating plans for the temporary trade in adaptive environmental water. Such trading has not yet occurred. An adaptive environmental water register is being introduced to record such trading. This register is expected to commence operation by late 2007.³³

The NSW government has established River Bank which a government initiative to spend \$105 million over five years to buy water for the environment from willing sellers. Funds from NSW RiverBank will buy water from the holders of existing water licences who are willing to sell all or part of their entitlement. Water will be bought at market rates through existing water markets. The Department of Environment and Conservation states that the water will help increase environmental flows, reduce extraction to sustainable levels, and return threatened environments to an acceptable level of health over time.³⁴ NSW is the only jurisdiction with such a program currently.

It has been argued by some groups such as the Australian Conservation Foundation, that 'the flexibility that water trading offers irrigators should also be available to the environment'.³⁵ The Productivity Commission report also finds that prohibiting or discouraging potential users such as environmental organisations from purchasing water 'precludes disclosure of the true value of alternative water uses, and restricts the benefits that the community as a whole can gain from water use'.³⁶

Element (ii) – Summary of recommendations

- Ensure that all trading registers are easily accessible on the internet, contain comprehensive detail, and facilitate transparent transactions.
- Maintain necessary checks and balances on trading in order to ensure environmental safeguards.
- Examine and report on the effective use of adaptive environmental water conditions on water access licences.
- Coordinate and facilitate the ability of NGOs to purchase licenses for environmental purposes.
- Increase government investment in the RiverBank program.

iii. Best practice water pricing

³² Page 2.63.

³³ Draft NSW Implementation Plan for the National Water Initiatives (2005) - Department of Natural Resources, NSW Government at 74.

³⁴ <http://www.epa.nsw.gov.au/education/nswriverbank.htm> (18 October 2006)

³⁵ Environment Victoria and the Australian Conservation Foundation, "Submission to the productivity Commission on Rural Water use and the Environment: The Role of Market mechanisms" February 2006, page 10.

³⁶ Productivity Commission, "Rural Water use and the Environment: The role of Market mechanisms" 11 August 2006, page 132.

Actions set out in the NSW Implementation Plan regarding element (iii) relate to: implementation of COAG pricing policies, metropolitan pricing, rural and regional pricing, cost recovery for planning and management, water infrastructure, release of unallocated water, environmental externalities managed through a range of regulatory measures, benchmarking efficient performance, independent regulator, and subsidies.

COAG principles

There is a lack of detail in the Implementation Plan regarding the timing and particulars of implementing COAG principles, for example, regarding unregulated rivers and groundwater implementation is “being progressed where appropriate” and establishing lower bound pricing in regulated valleys is “substantially complete” with no detail regarding incomplete areas (page 47). We note also, that 15 of 98 water suppliers still have a water allowance contrary to best practice pricing. It is unclear whether this has been addressed within the set timeframe.

Rural and regional pricing, cost recovery and subsidies

The National Water Commission has found that NSW has achieved upper bound cost recovery in urban areas, but that rural areas are in the lower bound.³⁷ Consistent with previous submissions, EDO and combined environment NGOs submit that it is important to move toward upper bound cost recovery in rural systems (as noted in the NCP Assessment page 2.45). In relation to rural and regional pricing and cost recovery, it is unclear what information is commercial in confidence regarding State Water’s Statement of Corporate Intent, or whether it is only information regarding the operating subsidy that is made public (page 51). Furthermore we note that IPART has indicated a substantial shortfall in full cost recovery in several valleys. EDO supports further examination by IPART into continuing subsidies (community service obligations), with analysis and recommendations made available for public comment.

Water infrastructure

The Implementation Plan states as a deliverable: “investment in new or refurbished water infrastructure to continue to be assessed as economically viable and ecologically sustainable before being approved” and “prior to the investment occurring” (page 56).

While the EDO supports exploring measures for recycling and stormwater re-use, we have some serious concerns about how infrastructure investment is undertaken in NSW. The proposed desalination plant for Kurnell is a case in point. The plant was declared to be “critical infrastructure” under Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW) and thus its approval was to be fast tracked. Not only does such a categorisation remove guarantees of genuine public participation in the planning process and proper environmental impact assessment, but it is also inconsistent with the IGA para 69. In this instance, preliminary investment and pre-approval occurred prior to any assessment of economic viability or ecological sustainability. The Commission noted in the NPC Assessment: “the Commission considers the level of public consultation on the proposed desalination plant has so far been inadequate to engender public confidence

³⁷ National Water Commission, ‘Progress of the National Water Initiative: A Report to the Council of Australian Governments, 1 June 2006 at 2.4

that the investment will be demonstrated to be economically viable”; and intends to maintain a watching brief on this issue (page 2.52).

Release of unallocated water

We note that of 36 WSPs gazetted only 3 identify additional water available for release. This indicates that the other 33 plans are 100% allocated or over-allocated. The Implementation Plan contains very little detail about information that will be made available at what stage prior to a release.

Environmental externalities

In relation to environmental externalities, it was noted in the NCP Assessment that “in terms of impacts on the environment, IPART considers that its decisions will help increase customers’ awareness of the scarcity and value of water, and encourage them to use this resource carefully” (page 2.54).

Engineers Australia makes the following remarks about this issue in its Urban Water Reform report:³⁸

Environmental externalities associated with water collection, storage and distribution include changes to hydrology caused by the creation of water storage, changes to flow rates of streams that are dammed, changes to ecological habitats as a result of manmade lakes in some areas and reduced inundation in other and changes to hydrology resulting from distribution system water losses and leakages. How to deal with externalities has been the source of considerable work and remains far from resolved. Regulation remains the prevailing approach in all States and Territories except the ACT. In the ACT, the water abstraction charge, which is factored into the component of water prices, is the first attempt in Australia to use a market mechanism.

EDO supports public education about the components of water pricing and better education of consumers about environmental externalities and the true cost of the resource.

Element (iii) – summary of recommendations

- Implement measures to move toward upper bound cost recovery in rural systems.
- Clarify that information on subsidies is not subject to commercial in confidence exemptions.
- Reinstate guarantees of genuine public participation in the planning process and proper environmental impact assessment of water infrastructure projects in NSW, consistent with the IGA para 69.
- Undertake public education about the components of water pricing and promote education of consumers about environmental externalities and the true cost of the water resource.

³⁸ Andre Kaspara, ‘Water and Australian Cities: Review of Urban Water Reform’, Engineers Australia (2006) at 41.

iv. **Integrated management of water for environmental and other public benefit outcomes**

Actions set out in the NSW Implementation Plan regarding element (iv) relate to institutional arrangements and water recovery principles.

This element is addressed in 2 pages of the 104 page Implementation Plan, and the focus of the principles is biased towards socio-economic impacts. “Environmental outcomes” are not well defined and there is a lack of detail about triggers for when it is “deemed necessary to recover water for environmental outcomes” (page 68). This concern is linked to the lack of scientific analysis underpinning the WSPs as noted above.

Institutional arrangements and implementation

There are a number of agencies with water management roles in NSW. The Department of Natural Resources (DNR) manages planned environmental water; State Water manages dams and water accounts; and CMAs manage adaptive environmental water. Furthermore, some WSPs provide for environmental flows committees, however, these do not have statutory powers and play an advisory role only. In addition, the Independent Pricing and Regulatory Tribunal (IPART) plays a role in setting prices for rural water systems managed by State water and for water resource management services provided by DNR. As noted by the NWC, NSW’s water resource management services of DNR are now completely separate from State Water’s water delivery services.

Notwithstanding the establishment of water managers, the arrangements for providing water for environment and other public purposes are limited by the way the legislation and plans have been drafted.

Section 8 of the *WM Act 2000* creates two categories of environmental water and by virtue of sections 5 and 9 of the Act, environmental water is required to have priority over all other water in the system. This is currently the position for all Group A plans which are already in effect.

In NSW environmental water is specifically defined in the *WM Act 2000* and accorded, in the legislation the highest priority as against other water uses, except in times of drought.³⁹ However, certain WSPs, especially those for 7 key regulated rivers, use a rule for allocating water to the environment provides “water in excess of the long term annual average extraction limit” or water that is “left over.” 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*). Recent 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,

³⁹ *Water Management Act 2000*, s 60.

- (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 is now law in NSW, unless a court challenge is upheld. Indeed, commentators have argued that these amendments are inconsistent with the statutory duties under section 5(3) to give environmental water first priority.⁴⁰ 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.⁴¹ This means that NSW has taken a step back in terms of the realisation of IGA Clause 35.

Group C plans are expected to commence on 1 July 2008. These plans cover significant ground water and unregulated water sources. It will be interesting to scrutinise the environmental allocations under those upcoming plans to determine whether the environment will be given residual share under section 8(1A)(c) or whether water will be committed vis a vis (b) and (c).

Water Sharing Plans contain objectives, strategies and performance indicators as required by section 35 *WM Act 2000*. These have been criticised by conservation groups as being fairly meaningless - for example, it has been argued that the performance indicators are not really capable of any meaningful form of measurement.

In the NWC review of the Lachlan WSP, it was found that no scientific studies to establish flow requirements for different ecological components had been undertaken, and that the process of determining environmental flows was based on presentations to committees and decisions made in closed session. Similarly, for the Hunter WSP there was no publicly available information about the process, but for the plan, draft plan and dissenting reports.

NSW has not been able to demonstrate that the best available scientific evidence was used to allocate environmental water. As noted by NWC Review the planning process in NSW had serious flaws including:⁴²

- 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.

⁴⁰ Alex Gardner, "Environmental water allocations in Australia", (2006) 23 *EPLJ* 208 at 218.

⁴¹ *ibid*

⁴² Page 2.28.

Environmental water requirements were determined using two methods: existing hydrologic modelling from the Integrated Quantity and Quality Model and independent advice from technical and professional experts, including agency staff. No single or specific methodology was used to assess environmental water requirements. Rather, it appears that existing environmental flow objectives from 1998 were modified in light of expert opinion. There are few formal or publicly available records of the decision making process, but it is evident that water management committees engaged in ongoing negotiations and bargaining over potential water allocation scenarios. For the Gwydir and Namoi systems, decisions were underpinned by environmental scans, thorough reviews of local literature and experience. However, this is not the case for other systems. Reduction of the long term annual average volume of extractions within a plan area was arbitrarily limited to 10% as a result of the rules imposed by the regulated river WSPs to allow for consideration of socioeconomic and regional development impacts.

Where water has been overallocated, there is no firm pathway to recovery. ‘Recovery’ of surface and groundwater is on an arbitrary basis that balances what was required against what was economically feasible. Therefore, to the extent that there has been consideration of a process, it has not been based on best available scientific evidence.

In NSW surface water plans have tended to describe entitlements as a unit/ML share. In most instances this unit is set as 1 i.e. an old volumetric entitlement for 100ML is now 100 shares. This means, in over-allocated systems managing the resource use is through the bulk access arrangements i.e. all entitlement holders will only get a percentage of available water. In theory, if an ADW was for 100% the system would still be over-allocated.

For the six overallocated inland alluvial groundwater aquifers⁴³ it was originally proposed that the entitlements of all water users be reduced by a set percentage. The decision was arbitrary and not based on a sound scientific basis, but nevertheless found to be valid (see *Murrumbidgee Groundwater Preservation Society Inc v Minister*).⁴⁴ The methodology has now been changed, reflecting stakeholder concerns over the approach to calculating entitlement reductions. These changes are being integrated into WSPs.

The implementation of entitlement reductions is to occur over the 10 year term of each plan, commencing July 2006, with each plan tailored in its approach to the timing and process for reductions.

The NSW Government maintains its policy that total use of groundwater will be managed within the sustainable yield and WSPs must specify the mechanism for reducing overallocation and extraction to the sustainable yield by the end of the 10 year plan period.

Element (iv) - Summary of recommendations

- Amend the Implementation Plan to better define “environmental outcomes” and address the lack of detail about triggers for when it is “deemed necessary to recover water for environmental outcomes.”
- Undertake research and consultation as an urgent priority to address identified

⁴³ Lower Gwydir, Lower Lachlan, Lower Macquarie, Lower Murrumbidgee, Upper and Lower Namoi

⁴⁴ [2005] NSWCA 9.

knowledge gaps.

- Amend WSPs to more accurately reflect the priority of environmental water against other water users.
- Amend the objectives, strategies and performance indicators in WSPs, to ensure that the objectives and performance indicators are capable of meaningful measurement and evaluation.
- Undertake research and consultation as a priority to address the concern that NSW has not been able to demonstrate that the best available scientific evidence was used to allocate environmental water.
- Clarify firm pathways to recovery in over allocated systems, based on the best available science.

v. **Water resource accounting**

Actions set out in the NSW Implementation Plan regarding element (v) relate to: benchmarking of accounting systems, consolidated water accounts, environmental water accounting, information measures, metering and measuring actions, and national guidelines on water reporting.

Water accounts

In relation to Action 2 - consolidated water accounts (page 71), EDO welcomes the reference to including consideration of land use change, climate change and other externalities into water accounts. However, it is foreshadowed in the Implementation Plan that inclusion of this information will be contingent on gathering sufficient data on measurable impacts. The Plan notes “the level of knowledge on the impacts of changes to these elements on catchments and the hydrological cycle is very limited” (page 72). A number of knowledge gaps are identified that are likely to hinder comprehensive accounting. These include: lack of definitions around the extent and rate of interactions between surface and groundwater systems.

The EDO recommends that resources be directed to research in this area in order to ensure that water accounting and reporting is as accurate and comprehensive as possible.

The specific guidelines for environmental water accounting (Action 3) are unclear regarding reporting under rules in WSPs that may be considered quasi – environmental rules (page 74). This should be clarified for each plan to ensure accurate data is being reported. Similarly, reporting requirements on adaptive environmental allocations under management plans are vague and aspirational in the current plan (page 74-75).

Standards for measurement, monitoring and reporting systems

The NWI states that the Natural Resource Management Ministerial Council will, in consultation with the NWC, develop by mid 2005 a comprehensive national set of performance indicators for the Agreement.⁴⁵ This is therefore a federal responsibility.

⁴⁵ See Clause 104(ii).

These national standards have not yet been formulated. These are expected by December 2007, which is two years beyond the forecasted completion date.

States are cooperating on the development of a national standard for measurement as per clause 88 via the NRMCC NWI working group. National guidelines for water reporting are also under development and are expected to be completed and adopted by December 2007.

National standards are different from the State-based monitoring of the achievement of outcomes in WSPs. NSW for example, has implemented a *NSW Water Extraction Monitoring Policy* with the objective of increasing the extent of active monitoring of water extraction.⁴⁶ This will be done primarily by means of identifying licensee's that are required to purchase and install water meters. Furthermore, the Natural Resources Commission (NRC) will carry out audits of all the WSPs within 10 years of their commencement against standards and targets set by the NRC. The NSW Implementation Plan reveals that mid-term reviews for Group A plans will commence in 2009. However, there appears to be no monitoring of performance against performance indicators in plans on an ongoing basis. The only annual reporting mechanism is one on annual implementation of WSPs that is included in the Department of Natural Resources (DNR) Annual Report. No qualitative assessment of environmental performance is undertaken in between mid-term reviews.

In relation to specific metering and measuring in the plan, Action 5 indicates that the majority of unregulated and groundwater usage will be monitored "but not every licence" (page 79). There should be information about thresholds/rationale for where measuring and metering is not considered to be required.

Furthermore, the NCP Assessments identifies some specific reporting concerns, for example in relation to compliance with drinking water guidelines (page 2.72). These concerns should be addressed by NSW.

Element (v) – Summary of recommendations

- Address the identified knowledge gaps that are likely to hinder comprehensive accounting. These include: lack of definitions around the extent and rate of interactions between surface and groundwater systems.
- Establish research and consultation to increase the level of knowledge on the impacts of climate change on catchments and the hydrological cycle to underpin comprehensive water accounting.
- Develop and implement comprehensive standards for measurement, monitoring and reporting systems as a priority.
- Ensure ongoing monitoring of WSPs against performance indicators following mid-term reviews.

vi. Urban water reform

⁴⁶ Department of Infrastructure, Planning and Natural Resources, May 2005. Copy at http://www.dlwc.nsw.gov.au/water/pdf/monitoring_policy_2005-05-25_bn_y05-364.pdf#search=%22monitoring%20standards%20water%20initiative%22 (11 September 2006).

Actions set out in the NSW Implementation Plan regarding element (vi) relate to: demand management measures, and innovation and capacity building to create water sensitive Australian cities.

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 on the recycling of sewage effluent and stormwater, and the long-term sustainability of water sources for human consumptive and environmental use. This is a 25 year plan. Future planning decisions will demonstrate whether this integrated approach flows over into decision-making and planning processes. Up to now however, an integrated approach has been far from the norm. 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 that provide water to urban areas. As noted above, an example of this is the proposed desalination plant in Sydney, which was declared to be critical infrastructure under the new Part 3A of the *Environmental Planning and Assessment Act 1979*.

Another example of short-term, unsustainable augmentation of urban water supply is the Clarence Valley and Coffs Harbour Regional Water supply project, which proposed to build 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 environmental impacts of this 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 (Department of Energy, Utilities and Sustainability) and are widespread in NSW. Even though the *Metropolitan Water Plan* has laudable intentions, 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.

NSW is currently drafting a Greater Metropolitan Region Water Sharing Plan under the *Water Management Act 2000*. According to the Department of Natural Resources, metropolitan plans for groundwater and surface water will be released together. These plans will need to be examined closely once they are exhibited to determine whether an integrated urban approach is taken or whether each water source is considered in isolation.

In terms of positive progress, EDO supports the establishment of the BASIX scheme, and encourages implementation of the Metropolitan Recycled Water Strategy. We also support leakage reduction clauses in Sydney Water operating licence, but submit the target of leakage reductions should be increased to at least 50% (instead of 25% - page 85).

Demand management

EDO also supports Element (vi) Action 1 (page 83 of the Implementation plan) refers to implementing the WELS scheme in relation to demand management.

The Commonwealth and the States have reached an agreement under the Water Efficiency Labelling Scheme (WELS) that sets standards for water-using appliances and requires mandatory labelling. The Commonwealth enacted the *Water Efficiency Labelling and Standards Act*, which is to be enacted by each jurisdiction as part of the agreement. WELS product determinations are required to include the standards for the products, setting out any registration and labeling requirements and any water efficiency and general performance requirements to apply to each type of product.⁴⁷ The *Water Efficiency Labelling and Standards (NSW) Act 2005* adopts the Commonwealth Act of the same name and commenced in April 2005. The Department of Energy, Utilities and Sustainability has commenced a study of indoor products to determine which products are suitable for being subject to minimum efficiency and performance standards. This process is to be completed by July 2007.⁴⁸

Element (vi) – Summary of recommendations

- Extend application of the BASIX scheme.
- Implement the Metropolitan Recycled Water Strategy, and explore storm-water re-use.
- Increase the target of leakage reduction clauses in Sydney Water operating licence to at least 50%.

vii. Community partnerships and adjustment

Actions set out in the NSW Implementation Plan regarding element (vii) relate to: timely consultation and information and adjustment issues.

The NCP Assessment notes criticism from both the irrigation Council and environmental NGOs concerning the lack of consultation on various aspects of the NSW water reform and planning process, for example in relation to groundwater and macro planning (page 2.70). Previous submissions by the EDO and combined groups provide further comment on consultation processes (see <http://www.edo.org.au/edonsw/site/policy.php>).

The *WM Act 2000* requires draft plans to be publicly exhibited.⁴⁹ In relation to the WSPs prepared to date, the impending inland Groundwater Plans, and the Macro Plans in development, this has already been done. However, as noted above, whilst the draft WSPs were exhibited with information brochures that explained the rationale behind the plans, the data that fed into the IQQM modelling was not publicly available and remains unavailable to the public. To be truly a transparent and accountable process, the scientific methodology underpinning planning decisions must be accessible by the public to increase confidence in the scientific veracity of water planning decisions.

⁴⁷ The primary standard currently applying to WELS products is the Australian and New Zealand Standard AS/NZS6400:2005 *Water-efficient products - Rating and labeling* (Schedule 1 to the *Water Efficiency Labelling and Standards Determination 2005*).

⁴⁸ *NSW Implementation Plan for the National Water Initiative*, 2006 at 83.

⁴⁹ Section 38.

The Implementation Plan indicates that CMAs will facilitate consultation on plans with key stakeholder groups. EDO has consulted with several CMAs during the native vegetation reform process and have conducted a number of regional stakeholder workshops on natural resource management, including CMA presentations. Our experience is that to date, while many CMAs have established landholder consultation groups, very few had established equivalent consultation processes with environment stakeholders. Also, as noted above, processes for consultation with indigenous stakeholders are also variable.

The Implementation Plan indicates that significant effort is being put into consulting on the socio-economic impacts of the water reform process, with a lack of reference to consultation on environmental impacts - for example, considerations of regional panels (page 93).

Element (vii) – Summary of recommendations

- Ensure that the scientific methodology underpinning planning decisions is accessible by the public to increase confidence in the scientific veracity of water planning decisions.
- Ensure that CMA consultations more comprehensively involve all stakeholders, including indigenous and environmental stakeholders in addition to rural landholders.
- Ensure that the focus of regional panels is equally on environmental outcomes as well as socio-economic impacts, to redress bias toward the latter consideration in NSW.

viii. Knowledge and capacity building

Actions set out in the NSW Implementation Plan regarding (viii) relate to: key knowledge and capacity building priorities.

As noted throughout this submission, there needs to be more detailed consultation on scientific analysis underpinning plans, identification of information gaps, and resources directed at comprehensively measuring environmental impacts and for example, interactions between surface and groundwater systems. This is essential for accurate medium and long-term planning.

Several areas of inadequate knowledge are identified in the Implementation Plan regarding information on environmental impacts. In this context, it is of concern that there is no inclusion of fresh water ecology expertise alongside the irrigation research and development corporations which are involved in the process (page 97). EDO submits that there should be a greater focus on obtaining accurate information on environmental impacts and hydrological interactions. The references to producing “knowledge products” are also vague (page 97).

Information levels in current plans should be updated. For example, despite efforts to identify environmental assets in WSPs, only two of eleven wetlands of international importance (Ramsar Wetlands) in NSW have been identified within the WSPs, the

Macquarie Marshes and the Gwydir wetlands. Similarly, only two of approximately 176 wetlands of national importance in NSW have been identified within the WSPs, the Tuross River Estuary and the Clarence River Estuary.

Without accurate and comprehensive information on environmental impacts to underpin the planning and reform process, it is unlikely that NSW will achieve its NWI obligations with regard to reestablishing healthy and productive water systems.

Element (viii) – Summary of recommendations

- Undertake detailed consultation on scientific analysis underpinning plans.
- Identify and address information gaps regarding environmental water needs and hydrological interactions, and environmental impacts as noted.
- Direct resources at comprehensively measuring environmental impacts and for example, interactions between surface and groundwater systems. This is essential for accurate medium and long-term planning.
- Include greater independent fresh water ecology expertise alongside the irrigation research and development corporations which are involved in research alliances and programs.
- Update environmental information levels in current plans, for example, to include all wetlands of international importance (Ramsar Wetlands) and of national importance.