



Submission to the Senate Rural and Regional Affairs and Transport Committee

Inquiry on the long-term sustainable management of the Murray Darling Basin system

The Inland Rivers Network (IRN) is a coalition of environment groups and individuals sharing a common concern to promote the health of the rivers, wetlands and groundwaters of the Murray-Darling Basin. Member groups include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of NSW; Friends of the Earth; Central West Environment Council; and the Coast and Wetlands Society.

IRN has contributed, through Newsletters, Conferences, Workshops and Submissions to improved understanding of the management needs of the MDB system towards this end since its establishment in 1991.

IRN has been greatly concerned about the fact that increasing extraction of water for irrigation and other development over many years has created a protracted artificial drought throughout most of the Basin. This has been compounded by the recent natural drought and has led to the now rapidly declining health of the natural systems across the basin.

IRN has welcomed attempts to improve management over the years, but has been disappointed that to date there has been insufficient political will at the various levels of decision-making to wind back over allocation to a sufficient level so as to restore the environmental health that underpins the viability of the basin.

In IRN's previous submission to this Committee on the Lower Lakes and Coorong some suggestions for buyback of upstream water were put forward. (1). IRN welcomes the significant purchases have been made, but until sufficient water makes its way through the system, this action cannot redeem the ecological crisis.

Furthermore, while much needed to refresh the system, redeeming supplementary water will only have effect at a time of flood: redeeming high security water is also essential.

The expert panel of 2003 and the various papers and advices that contributed ultimately to development of the National Water Initiative, The Living Murray and subsequent processes have made it clear that to continue to extract water at the level of current legal licences was unviable. The CSIRO reports on sustainability of the Basin river systems, and the increasingly grave forecasts on climate change trends demonstrate that the situation is going to get worse rather than better without drastic action.

The experience of IRN with respect to the *Water Sharing Plan* approach as applied in NSW, which has effectively entrenched a 15-year regime of over allocation, a cap system that has failed to take account of floodplain harvesting, and lack of adequate resources to ensure compliance, has been disappointing. This suggests that it is the lack of political will, rather than a lack of expert scientific understanding, that has allowed the impending MDB crisis to build to its current level.

IRN fully acknowledges that winding back is more painful than placing restrictions in the first place. Communities have been allowed to establish and expand on the premise that

economic growth is necessary and good, without being required to consider the economic 'externalities' that ultimately lead to high cost, socially and financially.

Nevertheless, IRN urges the Committee to review its earlier work on the Lower Lakes and Coorong in the light of information that continues to come forward, and to note in particular, the key issues highlighted in the minority report.

IRN also urges review of the disproportionate allocation of funding to infrastructure works compared to buy back, as announced at the time of the COAG meeting in July 2008.

Specifically, it is suggested that measures aimed at propping up unsustainable and sometimes outdated irrigation systems should urgent and stringently be reviewed, with the funds re-allocated into buyback of water to at least the level estimated as required by the expert panel and to provide restructure of non-sustainable enterprises.

IRN is hesitant in accepting that the current transfer of powers from the State governments to the Australian government will solve the problems of water overallocation and "running the rivers" in an ecologically potent manner. We suggest the Senate Committee review how the Murray Darling Basin is being run in twelve to eighteen months time. A sound understanding of the relationship amongst the States, the Australian Government and the Murray-Darling Basin Authority can then be developed.

With respect to the terms of reference, IRN notes that one outstanding inadequacy up to now has been proper recognition of the need to provide for the cultural water needs of indigenous people. IRN believes that it is essential that cultural rights are respected and provided for, and noting that although there is significant overlap, that this is not identical to ecological requirements.

IRN notes the useful analysis on *the Water Amendment Bill 2008* (14 October 2008, no. 45, 2008-2009, ISSN 1328-8091) now available on the Australian Parliamentary website, and also commends to the Committee the submission from ANEDO (Australia & New Zealand Environmental Defenders Organisation) which addresses aspects of legislation that are beyond the Network's expertise.

signed

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19/11/08.

Appendices

- 1-IRN Submission on the Lower Lakes and Coorong (2008)
- 2-IRN Report on the biodiversity and values of the Darling Basin (2008)
- 3-IRN Submission on to the NSW Department of Water and Energy on Floodplain Harvesting (2008)
- 4-IRN Proposal for a National Wetlands Initiative (2008)

References

COAG communiqué 3 July 2008 – Commonwealth funds
CSIRO Reports on Murray Darling Basin Sustainable Yield Project
Jones, G., Hillman, T., Kingsford, R., McMahon, T., Walker, K., Arthington, A., Whittington, J., and Cartwright, S. (2002). *Independent Report of the Expert Reference Panel on Environmental Flows and Water Quality Requirements for the River Murray System*.
(Cooperative Research Centre for Freshwater Ecology: Canberra)



Senate Inquiry into water management of the Lower Lakes and Coorong

Submission to Senate Rural and Regional Affairs and Transport Committee

The Inland Rivers Network (“IRN”) appreciates the opportunity to comment on the Senate Inquiry into water management of the Lower Lakes and Coorong, and would like to extend its congratulations to the Senate Rural and Regional Affairs and Transport Committee for its swift action in establishing this inquiry to seek this critical information in the face of the unprecedented stress being experienced in the Lower Lakes and Coorong.

IRN has supplied a number of options and recommendations below. However IRN’s key recommendation is for **a major and immediate targeted water purchase in the Murray and Darling systems by the Commonwealth Government to avert the ecological and social crisis** unfolding in the Ramsar-listed Lower Murray Lakes and Coorong. This approach may also help avoid the irreversible ramifications of other potential options, such as the ‘do nothing’ option, which leaves the wetlands at high risk of ‘run-away’ ecological collapse, or lowering the barrages.

It is of incredible importance to save and protect the internationally significant Lower Lakes and Coorong for its conservation and environmental values, for the people who live in the area and depend on the health of the system for their livelihoods, for the Ngarrindjeri Traditional owners, and for other industry and tourism in the area.

The Committee also needs to be cognisant of how much of the wetlands and their wildlife has already been lost in this incredibly important and internationally significant wetland when considering options that may cause further loss and damage, and also in prioritising efforts to save the high value areas remaining.

Options for sourcing and delivering freshwater to the Lower Lakes and Coorong

Please see attached two proposals containing options for sourcing and delivering water to the Lower Lakes and Coorong. These proposals will be supplemented by additional information detailed below.

Volumes of freshwater required for the Lower Lakes and Coorong

IRN has seen evidence that argues the point that the quantities of fresh water required are variable depending on the season and possibly are less than many might estimate and therefore may be available, or become available from upstream sources. IRN understands that the volume required could range from tens of gicalitres to hundreds of gicalitres of water. If necessary IRN can seek to provide the Committee with this evidence on notice.

Given this variability & the strength of the current season locally about the lakes, IRN strongly recommends that any decision to use seawater to maintain lake level above the acid sulfate trigger point be delayed for as long as possible in combination with a significant effort to return freshwater to the Lower Lakes and Coorong through the purchase of water entitlements or if necessary temporary water allocations.

This also provides a strong argument for a plan that involves a significant buy back of water entitlements in both the Murray and Darling systems in 2008 *so that when it does rain there is water available to be delivered* to the Lower Lakes and Coorong.

Darling system options - permanent water entitlement purchase

One option is to purchase water entitlements and/or properties in the Darling River system. When six potential properties were identified by IRN they currently had at least 300 gicalitres (GL) in storage. There was potential to access a significant quantity of this water if these properties or their water was purchased, but it is now unclear how much of that water remains or could be accessed, and what change in climatic and antecedent conditions has occurred, which will impact the volume of 'transmission losses'. In addition, note that over 400 GL could be recovered each year on average for the Darling and Murray Rivers for years to come. It should also be recognised that the properties identified were not an exhaustive list, and there is likely potential for such purchases to be made across the Murray-Darling Basin for both short and long term outcomes.

Transmission losses should not necessarily be viewed as a 'loss' or wasted water. If environmental water were to be delivered through the Darling system that flow will benefit other parts of the Murray-Darling environment that are also in need of more environmental flows.

Whilst retrospective evaluation cannot fix the Lower Lakes ecological crisis, it can provide a clear indication of required approaches for the future. If these properties had been purchased prior to the summer rains and floods in the Darling Basin, the Lower

Lakes and Coorong would not be in the condition they are in now, or there would be more water in Menindee available for release for the Lakes.

Clearly the purchase of water entitlements and/or properties needs to be greatly accelerated to provide both short term and long term benefits and solutions.

As many of these properties occur outside of defined irrigation areas the restrictions imposed by the retention of the 4 per cent cap on market trade¹ will not be an impediment to purchasing water entitlements in these areas.

Options for leasing contracts, with an option to buy, with a number of companies or businesses should also be examined, which will provide an opportunity to gain some water allocations in the short and medium term with the potential for long term purchase.

By way of useful background information, it should also be noted that in the MDBC's State of the Darling Report it is stated that:

“More recently, there has been major private investment in large storages on irrigation farms. The total volume of these storages now rivals that of the headwaters dams, and they capture much of the water that enters the Basin's rivers downstream of the dams... The total surface area of these shallow on farm storages is large, and evaporation rates in the Basin are high. The result is that evaporation from them is now a major cause of loss of water from the system. There are also large losses from Menindee Lakes. The end result is that evaporation from water storages is now estimated to be about 2,000,000 Megalitres per annum, which is equal to about 25% of the average flow in the Basin's rivers.”

Murray system options – permanent water entitlement purchase

There is nothing to lose and everything to gain from a major buy back of water entitlements for the environment in the southern Murray system.

The acquisition of a significant number of licences will have long term benefits for the health of the southern river systems and the quality of water that communities along the rivers depend on. There is also significant potential for these entitlements to gain water allocations when water flows into the system, providing the critical freshwater needed for the environment in the Murray River, its wetlands, and the Lower Lakes and Coorong.

For example, there has recently been another allocation of water in NSW for some licence holders in the Murray and Murrumbidgee valleys on the basis of inflows into those systems. Murray Valley high security water licence holders can now access 50 per cent of their licensed water entitlement, and Murrumbidgee Valley high security license holders can now access 75 per cent of their entitlements. Needless to say there

¹ NWI Section 60 iv) b) commits the parties of the NWI to the “immediate removal of barriers to permanent trade out of *water irrigation areas* up to an annual threshold limit of four percent 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, except in the southern Murray-Darling Basin where action to remove barriers to trade is agreed as set out under paragraph 633...”

is further potential for ongoing inflows and allocations into the Murray system from snow melt and/or rain.

It should be noted that unfortunately to date none of this water has been set aside as part of a strategy to avert the Lower Lakes crisis.

Water entitlements can also be acquired quite quickly. It is also widely known by water brokers and agencies that have been involved in the purchase of water for the environment that water entitlements can be permanently purchased within 6-8 weeks, though can range from 4 weeks through to several months.

This option is completely in line with the intentions and plans of the existing Commonwealth national water plan but simply involves bringing forward spending in recognition of the crisis in the Lower Lakes and Coorong.

However the Committee should note that the effective implementation of this option may be undermined by the continued existence of the 4% cap on permanent trade out of irrigation areas. Hence the validity and reasoning behind the retention of this impediment must be assessed to determine whether the impediment must be removed in light of this environmental and social emergency.

Should limitations arise from the existing budgetary allocations, money allocated in the budget for infrastructure should be used for water entitlement purchase in recognition of the Lower Lakes crisis. Furthermore, investment in infrastructure typically takes years to yield uncertain results, and in any event should occur after water entitlements have been purchased to ensure public money is not invested in disused or unviable areas.

Clearly a large scale buy-back of water entitlements for the environment is an option that must be implemented, though can potentially be done alongside other options to reduce the risk of zero inflows into the southern system.

Water held in Menindee Lakes, NSW

Information from NSW Department of Water and Energy suggests that there is currently approximately 529GL in Menindee.

A great deal of the water in Menindee appears to be earmarked to underpin conveyance losses that NSW would otherwise meet with water in Hume Dam. It would appear that there is potential to seek to take the usual approach of fulfilling those commitments to supply that conveyance water from Hume Dam, thus releasing some of the water in Menindee for the Lower Lakes and Coorong.

If water can be recovered from the Darling system there is also the opportunity to use water in Menindee in the short-term to benefit the Lower Lakes and then replaced, in part or whole, with water purchased and transmitted from farther north in the Darling Basin. This approach still offers significant potential given the recent tender opened by the Commonwealth government for water purchase in this system on Monday 15 September. Dr Bill Young, principal research scientist CSIRO Land and Water,

recently stated that more than 50 per cent of water released from Menindee would reach the Lower Lakes².

Use of water from the Murrumbidgee Valley

There has also been a significant amount of environmental water – at least 113 billion litres - that has been borrowed and not repaid in the Murrumbidgee system for almost two years (though potentially far more water as the environment should have received allocations over the last few years at the same time as irrigators). This water could be replaced immediately as inflows come into that system, and borrowed to assist the environment in the Murray system. However it should also be recognised that there are important and struggling environments in the Murrumbidgee system as well.

Alternatively water from the Murrumbidgee and Goulburn could be earmarked to cover some of the conveyance losses that NSW and Victoria have to supply in combination with inflows to Hume Dam, thus making it easier for the water in Menindee to be released for the Lower Lakes and Coorong.

Opening the barrages

IRN strongly recommends that the option of opening the barrages and allowing sea water to flow into the freshwater units through Lake Alexandrina is not taken. It should only be considered as a last resort option after all opportunities for water entitlement purchase have been tried and exhausted.

Further, if this last resort option is used it must only be done if there are reasonable flows coming down the Murray River to minimise and undo as much of the damage caused by opening the barrages as possible, and so that the sea water stays localised near the barrages and is diluted by River Murray water. Again this emphasises the importance of a major purchasing program of water entitlements in the southern connected system as well as the Darling system as soon as possible, with much of it completed by the end of 2008 if possible.

This recommendation is made on the following reasons:

- Letting in the sea may neutralise the acid that has been generated from exposure of acid sulfate soils in the areas it could reach. It would however bring with it a large fresh supply of sulfate ions ready to be converted to sulfuric acid. The promotion of the production of toxic sulfide minerals may pose *enhanced* future risk during drought periods unless they remain permanently inundated.
- While sea water may neutralise the acid generated from the exposure of acid sulfate soils, it is unlikely to reach most parts of the lakes currently affected by acidification because of the low energy transferred by the tide and waves and the topography of the lake bed, leaving vast areas of acidified wasteland;

² See: www.news.com.au/adelaidenow/story/0,22606,24029821-2682,00.html

- Sea water would enter on high tides in winter and then would not completely exit on low tides leaving a massive salt load in the Lakes to become concentrated through evaporation and further contribute sulfate to generation of fresh acid. Salt crusts would form around the Lakes edge and highly offensive odours would be released;
- Without significant River Murray inflows, or local rainfall, it is unlikely that an effective flushing regime could be established on the tide alone. Therefore, the lakes environment would progressively increase in salinity and decrease in health;
- With increasing salinity, algae and bacteria will dominate the system, hindering rehabilitation of the system back to what it was;
- The lakes would rapidly convert to highly saline environments, and be as salty as sea water or greater as evaporation occurs;
- The wildlife and ecosystems are unlikely to be able to adapt fast enough to the rapid increase in salinity and so it would kill off the remaining freshwater biota of the Lakes including small native fish that have reproduced in the system at least every five years for at least the last 10,000 years.
- The mobilisation of acid and toxic heavy metals which would occur as a consequence of the sea water flushing and the changes it causes to the lake soils would also lead to losses of freshwater plants and animals and extensive fish kills through de-oxygenation and toxicity;
- Seawater would recharge the underlying sediments with salt, and so it would take considerable time and flushing for the system to revert to being fresh;
- Groundwater under the lakes is also likely to be extensively salinised; and
- Recharge of exposed sediments with sea water will lead to long term salinisation even if flushing volumes of River Murray water were returned to the system, especially in sediments and soils with high clay content.

All of these issues will cause:

- (a) a loss of the ecological character for which the lakes part of the site was nominated as a Ramsar Wetland of International Importance;
- (b) a transferred loss of ecological character for which the Coorong part of the site that is dependent on lake outflows was nominated as a Ramsar Wetland; and,
- (c) a likely loss of threatened freshwater biota from the system, including several EPBC and State-listed species.

- (d) widespread social and economic impacts on people that rely on the ecosystem services of the lakes as a freshwater ecosystem; in particular, irrigators, graziers and the tourism sectors.

It would be a contaminated site of some 100,000 ha that would be effectively uninhabitable requiring the permanent retiring of productive land, both irrigated and dryland and possible evacuation of lakeside communities, and the irreversible damage of the Ramsar values for which the site holds status as a Wetland of International Importance.

Look at a mix of options

IRN also recommends that a mix of options presented need to be considered, rather than simply considering each option in isolation from others.

IRN also recommends that the Committee consider the environmental implications and costs of a number of options, including the do nothing option.

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Inland Rivers Network

The Inland Rivers Network (“IRN”) is a coalition of environment groups and individuals concerned about the degradation of the rivers, wetlands and groundwaters of the Murray-Darling Basin. It has been advocating for the conservation of rivers, wetlands and groundwater in the Murray-Darling Basin since 1991. Member groups include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of New South Wales; Friends of the Earth; Central West Environment Council; and the Coast and Wetlands Society.



Submission to Department of Water and Energy on Draft Floodplain Harvesting Policy

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Introduction

The Inland Rivers Network (“IRN”) is a coalition of environment groups and individuals concerned about the degradation of the rivers, wetlands and groundwaters of the Murray-Darling Basin. It has been advocating for the conservation of rivers, wetlands and groundwater in the Murray-Darling Basin since 1991. Member groups include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of New South Wales; Friends of the Earth; Central West Environment Council; and the Coast and Wetlands Society.

IRN appreciates the opportunity to comment on the draft Floodplain Harvesting Policy. IRN also strongly supports the development and implementation of this policy as this form of water extraction has remained a significant gap in water reform to date. The submission focuses specifically on the aspects of the policy that will have implications for the health of the rivers, wetlands and floodplains and seeks to provide constructive comments that will bring the draft policy in line with state legislative objectives and national commitments under the National Water Initiative.

The key recommendations include:

1. Include explicit details on how environmental water regained through the adequate regulation of floodplain harvesting and water entitlement recovery will be provided with legal recognition and protection;
2. All illegal works and works that steal, or are likely to steal, environmental water must not be retrospectively approved, and must be decommissioned;
3. The removal of any carryover entitlement;
4. Explicitly identify the *Water Management Act* 2000 as the appropriate legislation underpinning the policy and all environmental assessment processes and criteria applied under the policy;
5. Maintain the non-perpetual and non-compensable aspect of any floodplain harvesting licence, as is currently in the draft policy;

6. Ensure that there is a sunset clause within the policy for these licences to enable a review of these licences;
7. Floodplain harvesting limits should be set according to sustainable levels of extraction, determined in light of best available science and climate change estimates, which may well mean ensuring floodplain harvesting is not only within MDB Cap limits but below them;
8. Works with an application pending but not constructed should not be approved;
9. Works constructed without authorisation should not be approved even where they have sought retrospective permission;
10. Works licensed for flood control under Part 8 of the *Water Act 1912*, and without pending water extraction licence applications, should be treated as illegal in line with all other works not licensed for extraction;
11. Address assessment and licensing inconsistencies that occur for certain floodplain works such as dams and embankments when the *Environmental Protection & Assessment Act* (EPA Act) is limited by local environment plans;
12. Establish licence and annual access fees;
13. Floodplain harvesting extraction should be included within current Water Sharing Plans;
14. Floodplain harvesting licences should remain non-perpetual and non-compensable;
15. No new works should be approved where they have not yet been constructed, even if applications have been submitted; and
16. Rainfall harvesting and tailwater returns should be included within the policy.

Submission on NSW draft Floodplain Harvesting Policy

Principles that underpin the floodplain harvesting policy

IRN supports the following principles that underpin the policy:

- All extraction, including floodplain harvesting extraction must be licensed and managed under appropriate legislation and policy – i.e. the *Water Management Act 2000*. We recommend the explicit identification of this legislation in the principle.
- No additional water will be available for floodplain harvesting activities and extractions will be managed to be within the Cap or Water Sharing Plan Long Term Average Extraction Limit (LTAEL), whichever is the lowest amount.
- Not all existing works undertaking or capable of undertaking floodplain harvesting will be authorised for these activities.

Environmental Assessment

Environmental assessment processes and criteria developed under the current legislation – the *Water Management Act 2000* – and not the almost century-old *Water Act 1912*, should be utilised when finalising the licensing of works.

IRN also recommends that, in order to demonstrate an accountable process that is in line with NWI commitments to address over-allocation, environmental assessment provisions and/or guidelines should include considerations such as:

- the potential of the work to harvest or divert environmental water;
- direct and indirect impacts on ecology and species of the floodplain harvesting work or extraction;
- direct and indirect impacts of the work or extraction on water dependent ecosystems; and
- environmental impact of construction/modification of the actual works.

There is also a need to address assessment and licensing inconsistencies that occur for certain floodplain works such as dams and embankments when the EPA Act is limited by local environment plans. For example, a number of large – 4000 ML and 12,000 ML dams – in the Gwydir have been approved or are being considered for approval and are not being subject to robust environmental assessment procedures as they are considered to fall within LEP exemptions for ‘agriculture’. This is clearly an anomaly given the size and impact such developments will have, and the fact that in many other circumstances such developments are treated as ‘Designated Development’.

Floodplain harvesting plans

Floodplain harvesting extraction should be included within current water sharing plans (WSPs) in recognition of its nature as another form of water extraction. This would better integrate the floodplain harvesting with other types of water allocations and extractions and allow for their cumulative impacts to be more adequately recognised. It will also ensure that the accessing of these entitlements is within the

vision, objectives and water management principles identified in the WSPs and legislation.

(1) Works Management

Statewide audit of all floodplain works and floodplain harvesting

It is essential that there is an upfront audit across the state of all floodplain works (authorised, unauthorised and illegal) and floodplain harvesting. Without this knowledge it will be impossible to manage to the volumetric limit set as there will be no knowledge of any additional floodplain harvesting occurring without the relevant approvals. It is noted that the draft policy suggests that information will be collected in the “Irrigator Behaviour Questionnaire” in determining floodplain harvesting volumes and capacity. This is simply not accurate enough, as seen in the Barwon where similar surveys resulted in the NSW Government receiving firstly under-reported figures, then over-reported figures. Any such work must be underpinned by a thorough assessment through the use of tools such as satellite imagery and aerial photography, with the work independently verified. Recent work done by Celine Steinfield and Professor Richard Kingsford (UNSW) in the Macquarie Valley demonstrates what can be achieved with a cost effective method.

No approvals for illegal or unauthorised works

IRN strongly supports the moratorium put in place by the policy – i.e. that works without current approvals, or that have not lodged an application for approval as at 3 July 2008, not be approved under the policy.

However IRN strongly disagrees with the policy position that works constructed without authorisation should be retrospectively given permission, as they add to the existing problem of over-extraction and floodplain isolation, and also cause equity issues for those who had approved works in place prior to the Cap.

IRN also recommends that any works that do take, or are likely to take, environmental water are not approved and are decommissioned.

IRN supports the position that not all current works will receive a licence, and that no new floodplain harvesting works will be approved that will increase floodplain extractions, though our understanding is that NSW intends to simply share the ‘cap volume’ of water between approved floodplain extractions when there are a number of approvals post-Cap.

IRN recommends that no new works are approved where they have not yet been constructed, even if applications have been submitted. This recommendation is consistent with the policy position that no new floodplain harvesting works will be approved that will increase floodplain extractions, and is also made in recognition of the impact of further harvesting activities on the environment, existing users and downstream areas.

However we are currently confused as to statements made that the NSW Government will call for approvals/assessments when the draft policy states that only applications

received prior to 3 July 2008 will be considered. Clarification of this point would be appreciated.

IRN recommends that the policy states that illegal works will also be decommissioned.

IRN also recommends, as stated above, that *Water Act 1912* Part 8 works already approved or awaiting approval do not gain automatic consideration for approval unless they have been licensed for, or are seeking a licence for, the use of such works for extraction (as opposed to flood control).

(2) Volumetric Management

No additional water for floodplain harvesting

Whilst IRN supports this principle we are concerned that the policy does not sufficiently fulfil requirements under the NWI to “complete the return of all currently overallocated or overused systems to *environmentally-sustainable levels of extraction*”¹. This policy follows on from the MDB Cap Agreement and necessitates the NSW Government to implement water reform in an environmentally sustainable and responsible manner.

IRN recommends that floodplain harvesting limits are within sustainable levels of extraction and are determined in light of best available science, including on climate change estimates, a limit that is likely to be below the Cap. This will ensure more equitable and accountable licensing process and ensure that environmental entitlements do not disproportionately bear the risk of reductions in runoff and water availability as a result of climate change.

All water taken for floodplain harvesting should also be limited to being within existing long term average extraction limits. This is the only way to ensure that environmental water is not impacted. It is important to note here that environmental water is also considered what is ‘left over’ after the commitments to extraction, sharing and basic landholder rights have been met (*Water Management Act 2000* section 8(1A)(c)). This is different to the ‘planned’ environmental water entitlements eg the 160,000ML entitlement provided in the Macquarie WSP.

It is noted that water account initialisation will be based on 100 years of data. In recognition of climate change estimates and knowledge of the current dry period also being experienced, climatic representativeness is more effectively achieved through giving data from the last 10 years far greater weighting than other historical data.

Hydrological connection of all water extractions

The policy should recognise the hydrological connections between floodplain harvesting extractions and other forms of extraction, and not arbitrarily split the existing LTAEL in regulated rivers between floodplain harvesting and other

¹ NWI objective 23(iv)

extractions. This approach would seek to give floodplain harvesting far greater security than it was ever intended to have and will also artificially affect environmental entitlements in an inequitable manner as the activation of sleeper or dozer licences will affect them and some consumptive uses but not others (i.e. floodplain harvesting licences).

Additionally, in unregulated systems without a WSP a greater level of extraction by other types of licence holders (such as through sleeper or dozer licence activation) will reduce flooding, and so the opportunity for floodplain harvesting, therefore the extractions of floodplain harvesters is, in reality, limited by a growth in other extractions. The policy should reflect this connection.

There is also the risk that by not acknowledging this hydrological connection, environmental rules regarding floodplain harvesting may be eroded. This may occur in an attempt to ensure that floodplain harvesters extractions are not affected, for example, by allowing the building of works that can intercept waters at lower levels as high level floods are no longer as common, or harvesters may not be required to allow a first flush flood through before harvesting can begin, as flood events become less common.

Rainfall harvesting and tailwater returns

IRN maintains that volumes of water captured and used via rainfall harvesting and tailwater returns should also be included within this policy and regulated effectively. They are a component of surface water extraction and so fall within the over-allocation and over-extraction issues, and NWI commitments that relate to water extraction.

(3) Licensing

Environmental water protection

The draft policy does not effectively address the protection of environmental water, and explicit details need to be provided on how environmental water regained through the adequate regulation of floodplain harvesting (particularly in regards to illegal works and diversions) will be provided with legal recognition and protection

All illegal works and works that steal, or are likely to steal, environmental water must be removed. For example, some channels are deliberately placed across floodways, or floodrunners have been dug out, and environmental will flow into these channels. Such works must be removed where the environmental water cannot be protected, such as where gates cannot restrict the flow of environmental water into these channels. If they also transport irrigation water directly from the river channel, and the scheme is viable in light of climate change scenarios, piping infrastructure could be considered.

Not only does such development and extraction threaten the integrity of environmental water entitlements, it raises liability issues for farmers who may

illegally divert this environmental water, inadvertently or otherwise². Hence the policy must also ensure that landholders are not left with works that will take environmental water and be in breach of their licences.

By avoiding situations where there may be ongoing water theft, there will also be a significant reduction in ongoing legacy costs through compliance and prosecution, as well as providing far greater security for environmental water entitlements.

Similarly works should be removed where they sever key parts of the floodplain from environmental water, and issue that often leads to the death of trees, floodplain vegetation and wetlands.

Carry-over

IRN strongly disagrees with enabling licence holders to have the ability to carry-over allocations at all, let alone issues raised by irrigators suggesting that carryover should not even be limited. The removal of any right to carryover entitlements is required to ensure the NSW Riverflow objectives are met, *Water Management Act* priorities are adhered to, and in recognition of legacy costs through more complicated compliance requirements. It also ensures that licence holders are not given unrealistic expectations about the volume of their licences or ability to take substantial amounts of water in a climate-challenged present and future. Under such scenarios the environment will disproportionately bear the losses as floodplain harvesters would be able to take most of the infrequent flows that enter the system.

Licences should have condition-based access to ensure that the NSW Riverflow objectives are complied with. There must be a clear limit on maximum extraction, and should carryover be retained it must have a maximum limit of 2 years.

Harvesting rules

To ensure that floodplain water is not harvested at the expense of the environment, strong rules need to be established around when floodplain harvesting can occur and under what conditions. This is particularly important after a prolonged dry period and to protect flow variability and flushes, which are essential for ecosystems and wetlands. These rules should be established under the current WSPs. Enforcement of these rules is essential to ensuring equitable sharing of floodplain waters between users and the environment.

Licence tenure & compensation

IRN strongly supports the retention of the non-perpetual and non-compensable aspect of any floodplain harvesting licence, as currently detailed in the draft policy. These aspects should be retained in recognition of best available science on climate change scenarios and to ensure that licence holders understand the new water reform paradigm. Under current and predicted future climatic conditions and the water reform process it would be unconscionable to provide perpetual, compensable

² Due to the passive design of some floodplain works, be they channels, banks or other forms of development, their location will lead to them stealing or interfering with environmental water.

licences when that water may no longer be available or particularly secure. These aspects are also critical in recognition of the environmental impacts of this form of extraction and the ongoing issues of over-extraction.

It is also critical to maintain these aspects as in reality the NSW Government will be unable to effectively evaluate the achievability of adequate protection of environmental water and compliance with floodplain harvesting.

Furthermore, this is supported by the National Water Initiative as floodplain harvesting is contingent on opportunistic allocations.³

The policy also needs to ensure that there is a sunset clause within the policy for these licences to enable their review – this feature, in combination with retaining the non-perpetual and non-compensable aspects of the licence, is critical for enabling the NSW Government to evaluate the level of risk that floodplain harvesting activities pose to “the future integrity of water access entitlements and the achievement of environmental objectives for water systems” (see clause 56 of the NWI).

Licence and access fees

Fees for licences and annual access should be established in recognition of the fact that all other water licences have a cost and fee structure associated with them and that water is a public resource. Any licence to harvest water should be available through competitive tender with base prices determined by IPART.

Trading

IRN does not support either permanent or temporary trade of floodplain harvesting licences. This position is a result of an evaluation of the impact of the trade of other licences, e.g. the trade of a licence in the Gwydir Valley from Gil Gil to Tycannah Creek, which has resulted in more water being taken from the system than previously occurred. Allowing the permanent trade of floodplain harvesting licences is likely to lead to an increase in overall extraction when licences are traded out of systems that get less flooding as a result of climate change or upstream extractions and into systems where greater levels of harvesting will be achievable. This will result in a reduction in water going to the environment and the further exacerbation of over-extraction issues. It will also detrimentally affect people downstream.

IRN supports the current limit on temporary trading, for reasons including the existing issues of compliance.

If trading is permitted, there must be a robust environmental assessment of that proposal which also adequately considers the cumulative effect of that trade.

Metering, measurement and accounting

Measurement and accounting issues must be resolved before any licensing occurs, as there will be a number of difficulties in implementing this policy. In particular there will be issues in instances where harvested water is, for example, opportunistically

³ Para 33 of the National Water Initiative

pumped from a billabong, used to directly flood a paddock (at times involving water 4m deep), or held within a large channel. There is an inherent difficulty in measuring the current amount of floodplain harvesting occurring in many valleys, as water storage structures and supply works are used for a number of different purposes, in addition to floodplain harvesting. This difficulty in measurement will also be an issue in regards to compliance and the ability to manage extractions within the volumetric limit set.

Compliance and Enforcement

There is also considerable concern that insufficient resources will be dedicated to ensure the on-going compliance and the measurement of harvesting activities with the policy. The policy must be designed with the expectation that insufficient funds will be available to ensure compliance

Protecting the Australia's Endangered Wetlands:

A Proposal for a National Wetlands Initiative

Australia is home to some of the most diverse, beautiful and ecologically important wetlands in the world. There are more than 850 nationally important wetlands in Australia, and each one of them provides important environmental services: as critical habitat for waterbirds, nurseries for freshwater and marine fish and other aquatic life, filters absorbing pollutants and buffers reducing the impacts of floods.

Unfortunately, the health of many Australian wetlands, especially in the Murray-Darling Basin, is poor and declining rapidly. Years of excessive water use have denied wetlands the water they need to flourish. Dams, floodplain development and other diversionary structures often cause the water that does reach wetlands to flow at times and in patterns that are unnatural and ecologically damaging.

More than 90 percent of the floodplain wetlands have disappeared in the Murray Darling Basin alone. Wetlands vegetation is disappearing across the Basin; approximately 75 percent of the red gums along the Murray River are dead or dying. Waterbird populations are in collapse; colonial waterbird breeding on parts of the River is down 80 percent. And with climate change set to reduce precipitation throughout the Murray Darling, the wetlands that remain face an uncertain future.

The situation demands a coordinated and comprehensive response – a response that is equal to the Basin-wide nature of the crisis. In this paper IRN proposes that the Commonwealth undertake a National Wetlands Initiative to protect our wetlands, integrate wetlands management with Basin-wide water management processes, and strengthen the National Plan for Water Security.

Why Australia needs a National Wetlands Initiative

The threats to the health of our rivers and wetlands are not constrained by state boundaries, a fact that has played a role in recent Commonwealth initiatives such as the Water Act 2007 and the National Plan for Water Security. However, while the Water Act and NPWS recognise the importance of whole-of-catchment management in principle, their reforms are largely restricted to water allocation planning and management in the Murray Darling Basin. There are no provisions relating specifically to wetlands protection in the Water Act 2007. And despite having its constitutional basis in the need for the Commonwealth to fulfil the requirements of the Ramsar Convention on Wetlands of International Importance, the Water Act 2007 does not include a single provision designed specifically to strengthen Australia's Ramsar program.

Water reform at the national level is incomplete without a comprehensive National Wetlands Initiative. The goal of the initiative described in this paper is to strengthen protection of Australia's most important wetlands, especially those in the Murray-Darling Basin that face immediate and critical threats, in the following areas:

- *More rapid delivery of environmental water to the Basin's most imperilled wetlands.* Both the Commonwealth and the Murray-Darling Basin states have made substantial financial commitments to return water from overallocated river systems to wetlands – in 2003, \$500 million dollars were pledged through The Living Murray Initiative, and earlier this year the Commonwealth pledged \$3.1 billion dollars toward addressing overallocation in the Murray-Darling Basin.

However, progress toward actually returning water to stressed river systems has been painfully slow – to date, only 20 GL of the roughly 500GL anticipated to be acquired has been approved for purchase via the Living Murray process. The current \$3 billion commitment to address over-allocation under the National Plan for Water Security is radically weighted toward future expenditure; the amounts budgeted to address over-allocation are only \$28 million in 2007-08 and \$85.9 million in 2008-09.

A National Wetlands Initiative would include mechanisms to speed the pace at which environmental water is acquired and used to relieve the stress on imperilled wetlands, and to ensure that environmental water that is acquired is delivered to achieve maximum benefits.

- *Improved integration between wetlands protection and water management planning through the National Plan for Water Security and the Water Act 2007.* The Water Act 2007 is based on the Commonwealth's constitutional powers to implement international environmental agreements, and Section 3 of the Act specifically states that it is intended to give effect to those agreements, which include the Ramsar Convention on Wetlands of International Importance, the Convention on Biological Diversity, and migratory bird treaties with China and Japan.

However, this recognition of the need for a national approach to wetlands protection is not always reflected in the substance of the National Plan for Water Security or the Water Act 2007. There is no provision for a national system of protected wetlands within the Water Act, nor does the Water Act require planning for Ramsar-listed wetlands to be fully integrated with water management planning.

A National Wetlands Initiative would integrate the planning for Ramsar-listed wetlands – the protection of which provides the constitutional basis for the Water Act – within the water management processes established by the Act; and it would provide a platform for recognising and managing a national system of protected wetlands.

- *A renewed commitment toward meeting international obligations to protect wetlands.* Australia was one of the first countries to join the Ramsar Convention on Wetlands of International Importance, in 1975, and it was the first country to designate a Ramsar site: Cobourg Peninsula, in the Northern Territory. To date Australia has named 65 wetlands as wetlands of international importance.

Australia's record of maintaining the ecological character of Ramsar-listed wetlands and promoting the sustainable management of *all* wetlands, both of which are required under the Ramsar Convention, is less impressive. The health of many of the Ramsar-listed wetlands in the Murray-Darling Basin is in rapid decline. The authors of an expert report on the Coorong, at the mouth of the Murray River, have

recommended that consideration be given to adding the Coorong to the Ramsar Convention's Montreaux list of wetlands in danger.

A National Wetlands Initiative would renew Australia's commitment to meeting international wetlands obligations by strengthening the Commonwealth's capacity to develop and implement management strategies for Ramsar sites, raising the profile of Ramsar-listed wetlands, and promoting the sustainable management, or "wise use," of all wetlands, as required by the Ramsar Convention.

Now is the right time for a National Wetlands Initiative

With some of Australia's largest red gum forests dying along the Murray River, the Coorong facing imminent ecological collapse, and waterbird populations plummeting in northern Basin wetlands like the Macquarie Marshes, we are facing a crisis in Australian wetlands protection. Every year we delay action, more wetlands are lost and the cost of rehabilitation goes up.

As dire as the situation is, it also presents a unique opportunity. A decisive intervention has the potential to yield dramatic benefits. Because the Commonwealth is undertaking more comprehensive Basin planning and management under the Water Act 2007, new mechanisms for protecting wetlands can be integrated seamlessly and effectively into the new Basin planning arrangements. Because the Commonwealth has committed to substantial expenditures to reduce overallocation, mechanisms for prioritising wetlands recovery actions can assist managers in directing expenditures for acquisitions. A National Wetlands Initiative can accomplish more now than at any time in recent memory.

How a National Wetlands Initiative would work

A comprehensive National Wetlands Initiative would include a set of integrated actions in three areas: (1) recovering water for wetlands, (2) Ramsar and protected areas designation and management, and (3) integrating wetlands protection within broader environmental legislation including the Water Act 2007 and the Environmental Protection and Biodiversity Conservation (EPBC) Act.

- *Water for wetlands.* The single most important reason for wetlands decline in Australia is lack of water, and the single most important thing Australian governments can do to improve wetlands health is to expedite dramatically the acquisition of water for the environment. A National Wetlands Initiative would:
 - Immediately finance recovery of environmental water by balancing the NPWS expenditures evenly over next 10 years;
 - Set targets *and* timelines for returning water to parched wetlands.
- *Ramsar and protected areas designation and management.* Too often, designation of Ramsar sites is not followed up by adequate management planning, management activity, and investment in rehabilitation. In addition, Australia still has not begun the effort to establish a comprehensive, adequate and representative system of high conservation value freshwater areas equivalent to the terrestrial national parks and marine parks systems. A National Wetlands Initiative would:

- Incorporate Ramsar management plans into Murray-Darling Basin Plan prepared under the Water Bill 2007;
 - Establish a procedure for preparing and accrediting Ramsar management Plans under the Water Bill, similar to the Water Bill's procedure for Water Resource Plans;
 - Establish a Commonwealth Fund for Private Ramsar Managers, so that private individuals who assist Australia in meeting its international wetlands commitments by agreeing to Ramsar listing for wetlands on their lands would be eligible for the funding they deserve;
 - Begin the process of establishing a national system of High Conservation Value rivers and wetlands, possibly including a component for community groups to develop and participate in nominations.
- *Incorporating wetlands protection into broader environmental legislation.* A National Wetlands Initiative would elevate the importance of wetlands protection within the Water Act 2007, so that the Act truly lives up to its constitutional justification. It would also include amendments to the EPBC Act that reflect the national significance of wetlands and water management.

The National Wetlands Initiative would amend the Water Act to:

- Include an explicit requirement that investment in water recovery through the National Plan for Water Security be directed by the Murray-Darling Basin Plan;
- Include a requirement that the Basin Plan ensures that enough water is set aside to mitigate the impacts of climate change on wetlands;
- Ensure that there is explicit jurisdiction under the Water Bill to protect environmental flows from diversion and theft.

The National Wetlands Initiative would amend the EPBC Act to:

- Provide that any action that has a significant impact on local, regional or national water resources be subject to EPBC Act assessment and approval;
- Provide that any action likely to have a significant impact on nationally important wetlands as listed in the *Directory of Important Wetlands* be subject to EPBC Act assessment and approval.
- Improve cumulative impact assessments in water resource management (this last needs work).