



I N L A N D
R I V E R S
N E T W O R K

*Submission to the
New South Wales Office of Water
in response to the Draft Water Sharing Plan for the:*
. Murrumbidgee Unregulated and Alluvial Water Sources

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About Inland Rivers Network

The Inland Rivers Network (IRN)¹ is a coalition of environment groups and individuals concerned about the degradation of the rivers, wetlands and groundwaters of the Murray-Darling Basin. Member groups of IRN include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of NSW; the Central West Environment Council; Friends of the Earth; The Wilderness Society, Sydney Branch and the Coast and Wetlands Society.

IRN has been advocating for the conservation of rivers, wetlands and groundwater within the Murray-Darling Basin since 1991.

PART 1

1.1 Introduction

The Inland Rivers Network welcomes the opportunity to provide comment on the draft Water Sharing Plan (“WSP”) for the Murrumbidgee Unregulated and Alluvial Water Sources.

IRN strongly supports the development of a next round of Water Sharing Plans covering the use and management of many of the remaining water sources across the state. IRN believes that much remains to be done in order to better manage and restore water to the river systems of NSW after decades of increasing use and overallocation.

IRN appreciates that this next round of water sharing plans are being developed in the context of the imminent Commonwealth Murray-Darling Basin Plan. While the Basin Plan is to be an overarching plan for the way in which water resources are managed across the whole of the Basin, IRN believes that whatever the final outcomes of the Basin Plan process are, it will be important that these NSW Water Sharing Plans are robust enough to exist as stand-alone elements for the ecologically sustainable sharing of water resources into the future. This is critically important for the state of NSW, and for Australia as a whole.

In this submission IRN has focussed on some key areas of comment regarding these draft plans. Many of them are matters of concern that have previously been raised by IRN in submissions to the earlier round of WSPs. This submission will firstly elaborate on these key areas of concern and then discuss in detail some of the points that are specific to this draft WSP.

1.2 General comments

As has been communicated in previous submissions to NOW, IRN believes that there are several key steps that need to be followed in order to ensure that Water Sharing Plans in NSW are consistent with National Water Initiative commitments and the spirit of the original NSW water reform agenda. These are, that:

- 1. over-allocated and/or overdrawn surface and groundwater systems must be returned to ecologically sustainable levels of extraction, in volume and timing;*

¹ For more information see website at www.irnsw.org.au

2. *surface and groundwater systems with high conservation value must be identified, acknowledged and their values protected;*
3. *connectivity between surface and groundwater resources must be recognised and connected systems be managed as a single resource;*
4. *a robust metering and monitoring program must be implemented and adequately resourced to ensure on-ground implementation of the plan and ensure secure environmental water allocations;*
5. *independent rigorous river health assessments need to be conducted to ensure the plans are maintaining or improving river health;*
6. *plans must include appropriate adaptive management provisions to utilise new knowledge and avoid costly remediation;*
7. *objective, transparent and accountable processes must occur to ensure adequate community input and confidence in the NSW water reform; and*
8. *water sharing plans should be consistent with existing environmental policy, statements of intent, bilateral, national and international water agreements, including the National Water Initiative and State Water Management Outcomes.*

As the WSPs will need to be accredited under the Murray-Darling Basin Plan, these WSPs will be required to be consistent with the *Water Act 2007 (Cth)*, which acknowledges the history of overallocation and overuse of water resources and aims to return desperately needed water to the environment.

Due to the absence of records, flow data and other scientific analysis (including into instream values and groundwater connectivity) on many of the water sources in these draft WSPs, there is a vast amount that is unknown and unquantifiable in these systems. IRN therefore refers to the need of the precautionary approach. That is, that where there are threats of serious damage to these freshwater systems, as is acknowledged in some Water Source report cards, lack of full scientific certainty should not be used as a reason to postpone measures to prevent such environmental harm.

1.3 Floodplain harvesting

The development of a NSW floodplain harvesting policy is a crucial step for water reform in NSW and once developed is something that all Water Sharing Plans will need to be integrated with, especially in terms of environmental flows and extraction levels. While IRN notes that creation of such a policy is underway, IRN stresses that this needs to be brought forward as a matter of some urgency.

The relationship between the environmental benefits of high flows in unregulated systems (for example aquifer recharge and wetland replenishment) and the impacts of floodplain harvesting needs to be identified.

1.4 Impacts of the water sharing plans on the water sources

While IRN is pleased to see that the WSPs being developed contain provisions for the sharing of water between the environment and extractive users in a more equitable manner, nevertheless, there are many ways in which IRN believes the current draft plans could be strengthened.

IRN emphasises the important point that healthy and ecologically sustainable river systems are necessary for a flourishing and sustainable community and a thriving economy across New South Wales.

1.5 Objectives of the plans

IRN believes that the WSPs should be consistent with objectives for inland river flows as per the NSW Interim River Flow Objectives.² That is, the plans for managing water sharing should:

- . protect pools in dry times;
- . protect natural low flows;
- . protect important rises in water levels;
- . maintain wetland and floodplain inundation;
- . mimic natural drying in temporary waterways;
- . maintain natural flow variability;
- . maintain natural rates of change in water levels;
- . manage groundwater for ecosystems;
- . minimise effects of weirs and other structures;
- . minimise effects of dams on water quality; and
- . make water available for unforeseen events.

1.6 Performance indicators

Part 2 of the draft WSP Order contains the performance indicators against which the success of the strategies, in reaching the objectives, is to be measured.

As stated above in the General Comments section above (1.2 at dot-point five), IRN believes that rigorous assessments will need to be undertaken in order to establish whether the plans are achieving the necessary outcomes. IRN considers that in order for this to be done, the performance indicators must be specific, measurable, achievable, relevant and time-bound. IRN notes that the performance indicators contained within Part 2 of the draft plans do not have these characteristics.

IRN is also concerned that these performance indicators contain little of the detail necessarily required in order to ensure that this plan is maintaining or improving river health.

In order for any performance indicators of the plan to be assessed, there must be an investment strategy to monitor the impacts of the plans. IRN believes that this monitoring program should involve rigorous independent assessments and that plan reviews should ensure adequate and genuine community consultation.

1.7 Identification of environmental values

IRN is concerned about the lack of identification of environmental values (as presented in the Background Information sections in the Report Cards) for some of the water sources in this WSP area (eg. Burrumbuttock Water Source, Lake George Water Source). However, IRN does note an improvement in one instance, whereby it is acknowledged and reported that 'no data' is held on the water source attributes such as relative instream value, hydrologic stress and risk to instream values in the Background Information section of the Report Card.³ IRN believes that this information should be presented for all water source areas, as the decisions around trade and access rules are based on weighing up these attributes – and highlighting instances where this data is not available

²NSW Water Quality and River Flow Objectives, <http://www.environment.nsw.gov.au/ieo/>

³NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Lake George Water Source*, Report Card 14 of 43, pp. 1.

highlights gaps in the knowledge base. IRN also believes that important areas for endemic species as well as bird and fish breeding must be identified and provided with specific rules that protect natural flow variability.

IRN does not accept the instream value classifications provided for many of the water sources. Within this WSP area there are many Water Sources where a large number of threatened flora and fauna species and endangered ecological communities have been identified. However, many of these Water Sources have been given a less than high rating of instream value. For example, the Lower Billabong Water Source has 2 threatened fish species, 5 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and 1 endangered ecological community but is given an ‘low’ instream value rating;⁴ and the Kyeamba Water Source has 2 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and two endangered ecological communities and yet is only given a ‘medium’ rating.⁵

IRN believes that the instream attributes of many of these water sources should justify a higher rating and does not support the *relative* instream rating method. According to the *Guidelines for surface water sharing plan report cards*,⁶ the assessment of relative instream value involves ‘*the various instream attributes [being] given a numerical score (and weighting if required) and then combined to determine an instream value. The values are then ranked by comparing them with all the other water sources in the plan area to yield a range of high, medium or low rating*’. IRN has concerns that the ‘instream value’, is only a relative one which compares and ranks these values against the other water sources in the plan area. This could mean that in a water sharing plan area which contains many water sources with ‘high’ instream values, some of those areas might subsequently be ranked as having ‘low’ value when *compared* to sites of *higher* value.

As the ‘relative instream value’ classification is a factor used to justify the access and trading provisions, this is particularly concerning. IRN therefore does not fully support the steps in the decision making processes and the approach used to develop the trading and access rules for many of the water sources within this WSP area.⁷

IRN believes that any water source which has high environmental values should have the potential for a ‘high’ classification, and to be accordingly protected in access and trading provisions, even if that means that all water sources within a management plan fall into that category.

1.8 Cease to Pump Rules

IRN supports the development of *Cease to Pump* rules for all of the water sources in these plans. IRN also supports *Cease to Pump* rules being activated at the beginning of the plan period. IRN believes that *Cease to Pump* rules are critical in order to secure natural low flows and to protect pools.

However, IRN is concerned that the *Cease to Pump* rules proposed in the majority of these water sources, namely the ‘no visible flow’ and the ‘no water level drawdown in natural pools’ rules, will

⁴NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Lower Billabong Water Source*, Report Card 15 of 43, pp. 2.

⁵NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Kyeamba Water Source*, Report Card 13 of 43, pp. 2.

⁶NSW Office of Water, *Guidelines for surface water sharing plan report cards*.

⁷NSW Office of Water, *Macro water sharing plans – the approach for unregulated rivers: A report to assist community consultation*.

not adequately protect natural low flows, very low flows and pools and lagoons in these water sources. This is discussed further in subsequent section on protection of pools.

By adopting the 'no visible flow' *Cease to Pump* rule in some water sources, whilst it may be preferential as compared to the existing situation for these pools, these plans will essentially allow for the continuation of increased 'drought' periods for these river systems as well as limiting the natural period of connectivity between stream pools.

Amendment provisions in each of the draft water sharing plans should include the creation of new more stringent *Cease to Pump* rules if and when new, desperately needed reference points are installed.

1.9 Protection of low and very low flows

IRN believes that *Cease to Pump* rules should ensure stream connectivity on at least 95% of the days that the water source is flowing, and that such rules should include clauses that allow very low flow levels to be altered following field verification.

Due to the critical nature of very low flows for many dependent organisms, under no circumstances should water users be able to extract water from the very low flow range. It is noted that such a position does not include the exceptional circumstances in which emergency response activities would require extraction.

Protecting low to very low flows and pools has been an objective endorsed by NSW since 1999,⁸ and as such should be seen as more of a priority some eleven years later in the development of these water sharing plans. IRN sees that such 'no visible flow' *Cease to Pump* rules, especially when combined with the difficulties associated with monitoring and enforcement, will not protect low and very low flows.

1.10 Protection of Pools

IRN does not support pumping from lagoons for extractive uses such as irrigation. IRN notes the statement that *'the only water available to many of the licence holders in the western section of the plan area is within pools and lagoons except during flood events'*⁹ and as such believes that access to these lagoons and pools should be limited to Stock and Domestic and Basic Landholder Rights usage. IRN also notes that Stock and Domestic and Basic Landholder Rights usage is exempt from the majority of the proposed access rules.

The protection of pools in unregulated streams is a critical environmental requirement. IRN is particularly concerned with the proposed *Cease to Pump* rule for off-river pools, lagoons and lakes that are not already subject to access rules being when 'the water level is less than 80% of the full containment volume' allowing for an effective 20% drawdown of these pools.¹⁰

⁸ NSW Water Quality and River Flow Objectives, <http://www.environment.nsw.gov.au/ieo/>

⁹ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Key Issues Report*, pp. 2.

¹⁰ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Key Issues Report*, pp. 2.

IRN believes that the following statement is in itself contradictory, as drawing down from these pools is not part of the natural drying cycle;

“the plan recognises the natural drying cycles of pools and lagoons, and allows users to take the top 20 per cent of the volume of the lagoon but retains the rest for the environment.”¹¹

IRN is also concerned with the *Cease to Pump* rule for in-river pools, lagoons and lakes within water sources that have not been established in this WSP being ‘at less than 100% of its full containment volume’.¹²

IRN appreciates that the lack of gauging devices and reference points creates limitations for the creation of *Cease to Pump* rules that are based on flow height or volume. There is a desperate need for the installation and monitoring of a system of adequate and reliable reference points throughout these water sources across the state.

IRN strongly believes that pools are not adequately protected by the provisions proposed in this draft WSP and calls for strengthening of these provisions and/or an amendment provision being put in place to allow for more stringent rules regarding pools to be put in place early in the life of the WSP.

1.11 Commence to Pump Rules

IRN believes that *Commence to Pump* rules, such as first flush rules, are critical for protecting the integrity of small, medium and large freshes and floods. For example, a fresh flow occurring after a period of low flow (below the 80th percentile), should be protected from extraction for the first forty-eight hours. Such rules should recognise and meet the requirements of downstream wetlands and high conservation value sites.

Where not presented in this draft Plan, IRN calls for amendment provisions to be included that allow for more stringent *Commence to Pump* rules being made part of the Plan for various water sources in the future.

1.12 Environmental Water Provisions

IRN emphasises that there should be no increase in water extractions from any source unless evidence can be provided that ongoing management will be ecologically sustainable and that the source will not be compromised by the proposed change.

IRN does not believe that the proposed increase in extractions from high flows and medium to high flows in some water sources in this draft plan will be ecologically sustainable (see 2.1.4 and 2.2.2.4).

As per the *Water Management Act 2000*,¹³ in each case the protection of the water source should take precedence over water extraction. In order for WSPs to be suitable for accreditation under the Murray-Darling Basin Plan (*Water Act 2007* Commonwealth), they will need to be in line with the

¹¹ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Key Issues Report*, pp. 2.

¹² NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Key Issues Report*, pp. 2.

¹³ *Water Management Act 2000* (NSW)

objects of the Basin Plan which recognises that water desperately needs to be returned to the ailing river systems of the Basin.

IRN believes that the extractive share or daily extraction limit of licences should be altered where inactive licences become activated in order to ensure that there is no additional water extraction.

1.13 Protecting Environmental Releases

IRN strongly believes in the development of strong rules to protect environmental flow releases. IRN is aware that there is work being undertaken by the Office of Water to develop a framework for shepherding water for the environment. IRN looks forward to further engagement with the Office of Water regarding this project.

As such, IRN supports the amendment provisions included in the draft WSP to quarantine the flows once appropriate methods have been developed. IRN urges that the development of these provisions should be prioritised and implemented early in the life of the Plan.

1.14 Groundwater sources

IRN believes that 30% of the average annual recharge into groundwater sources must be reserved for the environment and thus be protected from extractive use. IRN also believes that, due to lack of information about accurate sustainable yield figures for groundwater, WSPs should include clauses limiting extraction in low yield years. In addition, plans should include a clause that allows for a reduction in extraction where GDEs are stressed or it becomes understood that current extraction levels might cause degradation.

Groundwater recharge needs to be protected and upstream flows are important in order for this to occur. Therefore, in addition to WSPs, robust floodplain management and floodplain harvesting policies are also needed to be put into place and effectively implemented.

The level and complexity of connectivity between surface water flows and groundwater remains largely unknown for many systems. IRN reiterates that the purposes of the Murray-Darling Basin Plan (as contained in the Federal *Water Act 2007*) are not to increase extraction levels, but to return water to the highly stressed environment of the Basin.

High conservation value ecosystems such as wetlands, hanging swamps and limestone cave systems that are dependent on surface and groundwater systems must be identified and their values protected.

IRN supports the intention to identify and list (in Schedule 5) groundwater dependent ecosystems (GDEs) in the WSP when information about them becomes available.¹⁴ IRN believes that such clauses should exist for the listing of surface water dependent ecosystems and the recognition of their water requirements. However, IRN does believe that the rules for groundwater bore distances from these sites are inadequate to ensure that GDEs will not be impacted upon. IRN notes that no

¹⁴ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Sources*, Order, Schedule 5.

GDEs are yet listed for this WSP. IRN adds that the ‘current investigation’ of these sites should be a priority activity.¹⁵

WSPs should include rules, excluding extraction within a distance of at least 400 metres from GDEs, for all access licences. IRN does not support the much smaller distances proposed within the draft plans. The plans only exclude bores within 100 metres for basic landholder rights and within 200 metres for non-basic landholder right from places described as ‘sensitive environmental areas’.¹⁶ Such short distances provide greater risk of negative impacts on these sensitive environmental areas. IRN believes that the level of uncertainty around impacts to groundwater sources and their dependent ecosystems requires the precautionary approach and thus a greater distance from these sites for bores.

IRN also notes two other points of concern regarding how groundwater components are dealt with in the plans. Whilst the draft orders detail that the dictionary (Schedule 1) will explain the terms referred to in the document, neither ‘groundwater dependent culturally significant sites’ nor ‘sensitive environmental areas’ are included in the dictionary.¹⁷ IRN asserts that this level of detail should be included in both the plans and supporting documents.

Due to a current lack of groundwater data, all bores should be mapped, metered and monitored and all unlicensed extractions halted. IRN also believes that bores identified within 1km of a GDE should be targeted for reductions in extraction at least until clear, documented and peer reviewed evidence that a particular bore is totally unconnected with the hydrology sustaining the associated GDE.

1.15 Trading Rules

IRN supports the indicative trading rule that trading into a water source with high instream value is not permitted. However, as discussed earlier, IRN has concerns about the relative classification of these instream values. IRN therefore takes issue in instances where trade has been allowed into Water Sources that don’t have ‘High’ relative instream value classification but have a significant number of threatened flora and fauna species and threatened ecological communities identified in them.

For instance, trade into the Burkes/Bullenbung Water Source has been allowed. Whilst this Water Source is only classified as having ‘Medium’ relative instream value, contains 4 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and 2 endangered ecological communities.¹⁸

IRN believes that instream trading should only be allowed in a downstream direction and that the details of assessments of trade within water sources should be transparent and publicly available.

¹⁵ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Sources*, Order, Schedule 5 ‘Note’.

¹⁶ For example: NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Wagga Wagga Alluvial Groundwater Source*, Report Card 43 of 43, pp. 5.

¹⁷ For example: NSW Office of Water, *Draft Water Sharing Plan for the Castlereagh Rivers Unregulated and Alluvial Water Sources: Castlereagh Alluvial Groundwater Source*, Order, Section 56 and Schedule 1.

¹⁸ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Burkes/Bullenbung Water Source*, Report Card 4 of 43, pp. 2.

1.16 Infrastructure, monitoring and compliance

IRN strongly emphasises the need for both monitoring infrastructure and compliance and enforcement components to be well resourced. The lack of gauging points and lack of flow data is a point of uncertainty for such a large number of water sources across the state, in that water is a critical and limiting component for many dependent ecosystems as well as farms. Extension of the reference point network should therefore be a priority action that accompanies these water sharing plans. Without resources for infrastructure, monitoring, compliance and enforcement, any water sharing plan that is developed will be less than optimal and provide much less than is required to achieve ecologically sustainable management of these complex systems.

Gauges and meters should be installed for all high environmental value, high economic value, and high-risk water sources within three years of the WSP's gazettal. Restoration of flow volume, flow variability and ecological values must be prioritised.

IRN notes instances in this WSP, such as in the Tantangara Water Source,¹⁹ whereby lack of suitable gauge data meant that the Panel was unable to adopt more quantifiable *Cease to Pump* rules.

Generally, the report cards for the water sources within this WSP illustrate how much remains unquantified and merely inferred with regard to extraction amounts (many water sources have no flow records).²⁰

IRN considers that all water extractions, including for stock and domestic use, should be mapped, gauged and monitored within five years of the WSP's implementation in order that all water extraction is quantified. Of critical importance, to the future health of many systems, will be the prevention of illegal extraction activities and the implementation of a rigorous compliance program.

1.17 Determination of Long-term Average Annual Extraction Limits (LTAAEL)

IRN calls for the use of a stringent precautionary approach to calculating LTAAEL. IRN assumes that these plans are being developed on the basis of the best available peer-reviewed science and advice.

IRN does not support an increase in the LTAAEL in from Alluvial Water Sources after a 5 year survey of usage.

1.18 Basic Landholder Rights

IRN would also like to make the general comment that unfettered growth of Basic Landholder rights, for example through subdivisions, will have a negative impact on the shares of all other water users.

¹⁹ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Tantangara Water Source*, Report Card 32 of 43, pp. 2.

²⁰ For example, the Murrumbidgee (Balranald to Weimby) Water Source, the Murrumbidgee North Water Source, the Murrumbidgee Western Water Source, the Muttama Water Source, the Tantangara Water Source, the Upper Tumut Water Source, the Upper Wangamong Water Source, the Urana Water Source and the Yarra Yarra Water Source.

Water Sharing Plans should send a strong message to local government about the implications for Local Environment Plan development. WSPs should be a mechanism to inform development in relation to water management through local government.

1.19 Lack of Environmental Information for Decision Making

IRN is concerned about the number of instances left open to Ministerial discretion in finalising this WSP. This creates a high level of uncertainty about how improved environmental outcomes will be achieved.

It is unclear what level of information will have to be supplied to the Minister in order for Ministerial discretion to be exercised in decisions regarding environmental impacts in this WSP.

IRN believes that in many instances, the lack of information about environmental values within the water sources, does not adequately provide for sound decision making processes.

1.20 Other Comments

As one of probably few organisations commenting on all of the draft plans currently on public exhibition, IRN would firstly like to raise the issue of inconsistency in the language and layout used to by the Office of Water in the supporting documents, namely the report cards, for each water source. Whilst this may be a relatively minor point of concern, IRN believes that consistency in language and the information presented (or not presented) is essential in order for comparative assessment of each of the draft plans to be undertaken.

For example, not all of the report cards include details about the environmental values (or 'instream values') of the water sources. If this information is unknown, or unassessed, than this should be acknowledged and presented in the report cards as has been done for the Lake George Water Source in this WSP area.

PART 2

DRAFT WATER SHARING PLAN for the MURRUMBIDGEE UNREGULATED and ALLUVIAL WATER SOURCES

2.1 Key Issues

IRN wishes to submit the following comments on the key issues identified in this WSP:

2.1.1 Proposed extraction increases

IRN does not believe that the proposed increase in extractions from high flows and medium to high flows in some water sources in this draft plan will be ecologically sustainable (see 2.1.4 and 2.2.2.4).

2.1.2 Protecting environmental releases

IRN strongly recommends that this WSP contain rules to protect environmental releases and flows. The shepherding of environmental water is a critical issue that must be taken into account in this WSP.

IRN notes that the NSW Office of Water is currently working on a project to develop a framework for shepherding water for the environment, and believe that this should be a priority project. This will clarify the issue of theft of environmental water. This issue has major legal ramifications and needs to be clearly identified.

IRN is strongly supportive of the move to develop and implement a long-term restoration project for montane rivers affected by the Snowy Mountains Scheme involving releases for environmental purposes such as to sustain fish breeding and spawning events.

IRN is alarmed by the following statement, presented as justification for the Panel not being able to apply any extra access rules to protect releases as part of the Snowy Montane Rivers Increases Flows project;

*'At present there is not adequate information to be able to determine what volume of release will reach Mittagang Crossing and there is no suitable gauge upstream of users against which to measure the environmental releases so the Panel was unable to specifically protect these flows.'*²¹

The Murrumbidgee I Water Source has a 'High' instream value rating (with 2 threatened fish species, 6 threatened frog species, 3 threatened bird species, 2 other threatened fauna types and 1 endangered ecological community), is under 'High' hydrologic stress and hence the risk to these instream values is considered 'High'. Similarly, the Murrumbidgee I Water Source has also has a 'High' instream value rating (with 4 threatened fish species, 4 threatened frog species, 4 threatened bird species, 2 other threatened fauna types and 1 endangered ecological community), is also under

²¹NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Murrumbidgee I Water Source*, Report Card 22 of 43, pp. 3; and similarly for NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Murrumbidgee II Water Source*, Report Card 23 of 43, pp. 3

‘High’ hydrologic stress and hence the risk to these instream values is also considered to be ‘High’. Due to the attributes of these Water Sources, IRN believes that undertaking modelling to develop appropriate *Cease to Pump* triggers that protect environmental releases should be a high priority.

IRN supports the amendment provision proposed to quarantine the environmental flows and believe that such methods to determine these variable *Cease to Pump* levels should be developed in the first two years of the WSP.

2.1.3 Protecting pools

IRN has concerns that the definition of natural pools in this WSP includes in-river pools found within the channels of rivers and creeks and off-river pools located on flood runners, floodplains and effluents e.g. lakes, lagoons and billabongs. These concerns are based around the weakness of the proposed *Cease to Pump* rules for these *natural pools*.

The proposed *Cease to Pump* rule for natural pools of ‘less than full capacity’ is highly inappropriate and does not identify a clear method of implementation or compliance. The definition of ‘full capacity’ provided in the report cards is ‘approximated by the pool water level at the point where there is no visible flow into and out of that pool.’²²

While the intent of the *Cease to Pump* rule for pools is “no drawing down the water level in natural pools” a more appropriate rule would be to cease pumping before flow ceases. To allow pumping to continue to an unspecified level once flow ceases into or out of a pool will not provide protection for an environmental water share.

This proposed *Cease to Pump* rule does not protect low flows in these unregulated water sources. Connectivity of flow is a critical value that provides key functions to the health of a river system.

IRN believes that *Cease to Pump* rules should ensure stream connectivity on at least 95% of the days that the water source is flowing.

The stated intention to adopt more lenient rules in this plan rather than to protect environmental values in the water source does not provide security of access for the environment. Pools in unregulated rivers provide important drought refuge for native fish and other aquatic fauna. Pools also provide important water sources for terrestrial fauna species during drought.

Off-river pools provide very important environmental values on the floodplain and should be protected from pumping once cross country flood flow has diminished. It is critical for pumps on off-river pools to be gauged and monitored. As such IRN is even more concerned by the proposal for licences holders on *off-river* pools to cease taking water when there is less than 80 per cent of the full containment volume.

The notes relating to the justification of more lenient rules than the propose *Cease to Pump* rules due to impact on current practices are alarming.²³ More lenient rules that do not protect low flows

²² For example, NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Houlaghans Water Source*, Report Card 11 of 43, pp. 2.

²³ For example, the statement ‘More lenient rules may be justified in areas where these rules would significantly impact on current practices’ in NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Houlaghans Water Source*, Report Card 11 of 43, pp. 3.

or maintain the integrity of pools in unregulated streams may contravene the *Water Management Act 2000* (NSW).

As previously stated in this submission IRN is concerned that in this draft WSP pools are not protected from access by Local Water Utility access licences, Town Water Supply access licences, Stock and Domestic access licences when water is taken for the purpose of domestic consumption, and Stock and Domestic access licences for the first 5 years of the plan when water is taken for the purpose of stock watering.

IRN supports the decision by the IRP in the Adjugbilly/Bowmbowlee/Brungle Water Source where it was noted that;

*'these management zones have good quality gauges at appropriate sites and it was deemed more rigorous to tie flows to the gauge to protect the very low flows.'*²⁴

2.1.4 Special additional (high flow) access licences

The recognition that large volumes of high flows can be accessed in some water sources through special additional (high flow) access licences is of major concern for environmental values. High flows in unregulated water sources have a significant function in providing overbank connectivity, aquifer recharge, fish passage and flushing functions. This often occurs infrequently in unregulated water sources. The extraction of peak high flows impacts on environmental access to these important functions.

IRN recommends that these licences be reduced at the commencement of the WSP to prevent further significant impact on the environmental health of the Murrumbidgee unregulated water sources.

2.1.5 Supplementary water access licences for groundwater

IRN does not support the granting of Supplementary Water Access Licences (SWALs), based on history of use, in the Mid Murrumbidgee and Wagga Wagga Alluvial Groundwater Sources when a growth in use response is triggered within the water source. This is based on the fact that this WSP should be aiming to limit or wind-back extraction and overallocation – hence IRN believes that granting these licences is contrary to the purpose of this Plan. As it has been known for some time that the WSPs, as well as many other elements of water reform, were going to be implemented, IRN does not believe that such a conciliatory approach is warranted. If such SWAL are to be issued, IRN believes that they should only be in the very early stages of the WSP.

The lack of information and assessment of the environmental values of these alluvial groundwater sources requires that precautionary principle to be adopted.

2.1.6 Extraction limits for alluvial groundwater sources

The state policy to maintain current usage of non metered alluvials as the long term average annual extraction limit (LTAAEL) in the Murray Darling Basin is a high risk policy that does not recognize the

²⁴ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Adjugbilly/Bowmbowlee/Brungle Water Source*, Report Card 1 of 43, pp. 6.

precautionary principle. The lack of knowledge of environmental values, connectivity and water quality issues relating to alluvial aquifers has not been clearly identified.

As previously stated in this submission IRN considers that 30% of the average annual recharge into groundwater sources must be reserved for the environment and thus be protected from extractive use.

There is no identified protection of recharge into the Mid Murrumbidgee and Wagga Wagga Alluvial Groundwater Sources.

The LTAAEL for the Wagga Wagga alluvial groundwater sources should not be set as the maximum five-year rolling average of annual usage for each individual entitlement for the period July 2000 to June 2010.

This approach may not meet the Plan objective to manage groundwater for ecosystems.

2.2 Report Cards

As discussed previously in this submission, IRN finds fault with some inconsistencies in the material presented in report cards, both within and between WSP areas, in many of the recently exhibited draft WSPs.

2.2.1 Instream Values

IRN supports that a large number of water sources in the Murrumbidgee unregulated water source have been identified as having high instream values. These include;

- . Burrinjuck Dam Catchment
- . Goodradigbee
- . Murrumbidgee Central (Burrinjuck to Gogeldrie)
- . Queanbeyan
- . Upper Tumut
- . Murrumbidgee I
- . Murrumbidgee II
- . Murrumbidgee III

As discussed above, IRN does not support the *relative* rating of instream attributes.

IRN challenges the 'Medium' instream value rating, and hence some of the resulting trading and access rule decisions, for the many of the water sources which have significant ecological values, for example;

- . Adjungbilly/Bombowlee/Brungle (4 threatened fish species, 2 threatened from species, 7 threatened birds species, 1 other threatened fauna type, 1 threatened wet flora species, 2 endangered ecological communities).
- . Billabung (3 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna species, 1 threatened wet flora species, 2 endangered ecological communities).
- . Burkes/Bullenbung (4 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species, 2 endangered ecological communities).

- . Gilmore/Sandy (2 threatened fish species, 2 threatened frog species, 7 threatened bird species, 2 other threatened fauna types, 1 threatened wet flora species, 2 endangered ecological communities).
- . Goobarrabandra (3 threatened fish species, 3 threatened frog species, 7 threatened bird species, 2 other threatened fauna types, 1 threatened wet flora species, 1 endangered ecological community) – which is already classified as “Wild and Scenic” under the *NSW National Parks and Wildlife Act* and associated Wild and Scenic Rivers Report.
- . Hillas (4 threatened fish species, 2 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species, 2 endangered ecological communities).
- . Houlaghans (5 threatened fish species, 5 threatened bird species, 1 other threatened fauna species, 1 threatened wet flora species, 1 endangered ecological community).
- . Jugiong (4 threatened fish species, 3 threatened frog species, 7 threatened bird species, 2 other threatened fauna types, 1 threatened wet flora species, 2 endangered ecological communities).
- . Kyeamba (2 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species, 2 endangered ecological communities).
- . Murrumbidgee (Gogeldrie to Waldaira) (6 threatened fish species, 5 threatened bird species, 1 other threatened fauna type, 1 endangered ecological community).
- . Murrumbidgee North (6 threatened fish species, 5 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species, 1 endangered ecological community).
- . Murrumbidgee Western (7 threatened fish species, 6 threatened bird species, 1 other threatened fauna type, 2 threatened wet flora species, 1 endangered ecological community).
- . Muttama (3 threatened fish species, 1 threatened frog species, 7 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species, 2 endangered ecological communities).

IRN challenges the ‘Low’ instream value rating, and the subsequent ‘Low’ risk to instream values rating in the Lower Billabong Water Source, which is already under High hydrologic stress.

IRN challenges the ‘Low’ instream value rating for Mountain Water Source (with 3 threatened fish species, 6 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and 1 endangered ecological community), Middle Billabong Water Source (2 threatened fish species, 6 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and 1 endangered ecological community).

IRN challenges the ‘Low instream value rating for;

- . Ten Mile (with 2 threatened fish species, 6 threatened bird species, 1 other threatened fauna type, 1 threatened wet flora species and 1 endangered ecological community).
- . Urana (3 threatened fish species, 5 threatened bird species, 1 other threatened fauna type, 1 wet flora species, 1 endangered ecological community).
- . Yarra Yarra (2 threatened fish species, 6 threatened bird species, 1 other threatened fauna type, 1 wet flora species, 1 endangered ecological community).

IRN is concerned that instream values have not been identified/attributed for the following water sources;

- . Burrumbuttock
- . Lake George
- . Murrumbidgee (Balranald to Weimby)

There is concern that environmental values, and high priority groundwater dependent ecosystems, have also not been identified for the Billabong Creek Alluvium, Bungendore Alluvium, Wagga Wagga Alluvium or Mid Murrumbidgee Alluvium.

2.2.2 Trading Rules

2.2.2.1 No trading into water sources

IRN supports the rule that no trading occur into the following high value streams;

- . Burrinjuck Dam Catchment
- . Murrumbidgee Central (Burrinjuck to Gogeldrie)
- . Queanbeyan
- . Upper Tumut
- . Murrumbidgee I
- . Murrumbidgee II

IRN does not support the trade into the Goodradigbee Water Source above the 80%ile flows. The Goodradigbee Water Source has High instream value (5 threatened fish species, 3 threatened frog species, 2 threatened bird species, 2 other threatened fauna types, 1 endangered ecological community) and is also classified as “Wild and Scenic”, hence trade into these flows is not appropriate.

2.2.2.2 Trading within water sources

IRN considers that any within water source trading only occur downstream to maintain flows along the stream length.

It is important to protect these high instream values from increased extraction rates through growth in basic rights, town water supply, stock and domestic licences and other extractive uses.

Investment in gauging, monitoring and compliance is critical to protect high instream values from future degradation.

2.2.2.3 Trading into water sources with high instream values

IRN is concerned that while instream trades will only occur subject to assessment, trades into streams from other water sources will not be assessed. All proposed trades into water sources with high instream values should be very closely assessed. It is imperative that all trading only occur in a downstream direction and that any likely impact on pools and low flows be assessed.

2.2.2.4 Trading into High Flows

As discussed above in section 2.1.3, high flows are an important part of the natural flow regime and IRN does not support trade into these flows.

As such, IRN challenges the statement that certain water sources ‘had capacity to sustain further usage’²⁵ in such flows. Despite limits being set on trades into these volumes, IRN believes such trade to be inappropriate and contrary the purposes of these water reform processes.

IRN does not support the IRP panel decision to allow “trade into the Goobarrangandra and Murrumbidgee III catchments as these catchments are able to sustain further extraction in the medium to high flow range.”²⁶ The Goobarrangandra Water Source has 3 threatened fish species, 3 threatened frog species, 7 threatened bird species, 2 other threatened fauna species, 1 threatened wet flora species and 1 endangered ecological community.²⁷ The Goobarrangandra, like the Goodradigbee River, is also classified as “Wild and Scenic”²⁸ indicating its environmental significance and requirement for further protection of these values.²⁹

The Murrumbidgee III Water Source³⁰ has ‘high’ relative instream value with 5 threatened fish species, 4 threatened frog species, 4 threatened bird species, 2 other threatened fauna types and 1 endangered ecological community. It is also classified as having ‘High’ hydrologic stress and has a ‘High’ risk to instream values, whilst having ‘Medium’ relative economic significance of irrigation. As such, IRN does not support the proposal to allow further extraction from the medium to high flow range.

2.2.3 Alluvial Groundwater Sources

IRN wishes to reiterate that the National Water Initiative and NSW Water Reform identifies that:

3. connectivity between surface and groundwater resources must be recognised and connected systems be managed as a single resource

This WSP has not adopted an appropriate management regime for the highly connected alluvial aquifers, such as the Mid Murrumbidgee Alluvial Groundwater Source.³¹

2.2.3.1 Increase in usage

IRN does not support the proposed granting of access licences for Specific Purpose Access Licences including: local water utility, major water utility, domestic and stock and town water supply in the Bungendore Alluvial, Mid Murrumbidgee Alluvial, Wagga Wagga Alluvial and Billabong Creek Alluvial.

²⁵ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Adjungbilly/Bombowlee/Burngle Water Source*, Report Card 1 of 43, pp. 5.

²⁶ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Burrinjuck Dam Catchment Water Source*, Report Card 5 of 43, pp. 3.

²⁷ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Goobarrangandra Water Source*, Report Card 8 of 43, pp. 2.

²⁸ NSW Office of Water, *Macro water sharing plans – the approach for unregulated rivers: A report to assist community consultation*, pp. 30.

²⁹ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Goobarrangandra Water Source*, Report Card 8 of 43, pp. 3.

³⁰ NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source, Murrumbidgee III Water Source*, Report Card 24 of 43, pp. 2.

³¹ NSW Office of Water, *Draft Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Source, Mid Murrumbidgee Alluvial Groundwater Source*, Report Card 42 of 43.

As discussed previously, IRN does not support the granting of Supplementary Water Access Licences (SWALs), based on history of use, in the Mid Murrumbidgee and Wagga Wagga Alluvial Groundwater Sources when a growth in use response is triggered within the water source.

2.2.3.2 Trading Rules

Trading within the groundwater systems must be carefully assessed for drawdown impacts. IRN does not support trading into alluvial groundwater sources.

IRN considers carryover in unregulated streams and groundwater systems as impossible to regulate and highly inappropriate, especially as such accounting can result in loss of flows the environment when it is most needed.

Carryover accounting can negatively impact on levels of groundwater recharge. Therefore, IRN calls for a no carryover rules for the sake of groundwater recharge and the need to apply the precautionary principle. As such IRN supports no carryover in the Bungendore Alluvial and does not support the proposals for carryover in the Billabong Creek Alluvial, Wagga Wagga Alluvial and Mid Murrumbidgee Alluvial.

2.2.3.3 Rules for water supply works approvals and GDEs

High conservation value ecosystems such as wetlands, hanging swamps and limestone cave systems that are dependent on surface and groundwater systems must be identified and their values protected.

IRN notes that no high priority groundwater dependent ecosystems (GDEs) have identified or listed (in Schedule 5) of the WSP. IRN supports the amendment provision for subsequent inclusion of GDEs in this schedule and calls for investigations into their existence in this WSP area as a priority early in the life of the Plan.³² IRN believes that such clauses should exist for the listing of surface water dependent ecosystems and the recognition of their water requirements. IRN also believes that the rules for groundwater bore distances from these sites are inadequate to ensure that the integrity of GDEs will not be adversely impacted upon.

WSPs should include rules, excluding extraction within a distance of at least 400 metres from GDEs, for all access licences. IRN does not support the much smaller distances proposed within this WSP. The plans only exclude bores within 100 metres, for basic landholder rights, and 200m for non-basic landholder rights, from areas described as 'sensitive environmental areas'. Such short distances provide greater risk of negative impacts on these sensitive environmental areas. IRN believes that the level of uncertainty around impacts to groundwater sources and their dependent ecosystems requires the precautionary approach and thus a greater distance from these sites for bores.

Due to a current lack of groundwater data, all bores should be mapped, metered and monitored and all unlicensed extractions halted. IRN also believes that bores identified within 1km of a GDE should be targeted for reductions in extraction at least until clear, documented and peer reviewed evidence that a particular bore is totally unconnected with the hydrology sustaining the associated GDE.

³²NSW Office of Water, *Draft Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Source*, Draft Order, Schedule 5 at pp.142.