



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:*
. Macquarie Bogan 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 Macquarie Bogan Unregulated and Alluvial Water Sources.

IRN strongly supports the development of this 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.

As discussed briefly in IRN’s previous general submission letter, 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 on many of the water sources in these draft WSPs, there is a vast amount that is unknown and unquantifiable in these systems. IRN notes that the majority of streams in this WSP have been identified as having high instream values. IRN supports a precautionary approach so that these values are maintained into the future.

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 do 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 notes the classification of most of the water sources in this WSP, in their report cards, as having 'high instream values'. IRN believes that instream values should be investigated and classified for all of the water sources. Furthermore, the overall environmental value of the water sources must also recognise terrestrial and floodplain environmental values, cultural and aesthetic values and the essential ecosystem health functions.

IRN believes that any water source which has a 'high' classification should be accordingly protected in access and trading provisions.

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

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.

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' rule, will not adequately protect natural low flows and very low flows in these water sources.

By adopting the 'no visible flow' *Cease to Pump* rule in the majority of the water sources, whilst it may be preferential as compared to the existing situation, 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.

Protecting low to very low flows and pools has been an objective endorsed by NSW since 1999,³ 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. They will only protect pools to a certain extent, and only on paper.

IRN is particularly concerned with the *Cease to Pump* rule for pools in this WSP being 'at less than 100% of its full containment volume.' The protection of pools in unregulated streams is a critical environmental requirement.

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. IRN notes that a common theme in the report cards was for the Interagency Regional Panel ("IRP") to recommend a *Cease to Pump* rule based on 'no visible flow' due to there being 'no suitable reference points in the various water sources'.

This WSP has also identified that a *Cease to Pump* rule of "no visible flow at the pump site" cannot be implemented for natural off-river pools and some natural in-river pools, therefore an alternate *Cease to Pump* rule based on pool drawdown is proposed for natural pools. The "no draw down" rule has the same objective as the no visible flow rule i.e. the protection of natural pools.

This issue will be commented on in more detail in Part 2 of this submission.

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

1.9 Protection of low and very low flows

³ NSW Water Quality and River Flow Objectives, <http://www.environment.nsw.gov.au/ieo/>

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.

1.10 Protection of Pools

IRN is concerned that the access rules for protecting pools in this draft WSP excludes 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.

This provision does not provide any environmental protection for pools within the Macquarie Bogan Water Source.

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.

IRN is concerned that *Commence to Pump* rules are not presented as a component of this draft WSP.

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.

As per the *Water Management Act 2000*,⁴ 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 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.

⁴ *Water Management Act 2000* (NSW)

1.13 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 identification and listing (in Schedules) of groundwater dependent ecosystems (GDEs) in the plans as well as the potential for the listing of further additional sites when information about them becomes available.⁵ 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.

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 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.

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.⁶ 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.

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

⁶ 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.

1.14 Trading Rules

IRN supports the indicative trading rule that trading into a water source with high instream value is not permitted. However, IRN is concerned about the instances whereby the Interagency Regional Panels have not adopted such a rule.

IRN therefore 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.

1.15 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.

The report cards for these water sources illustrate how much remains unquantified and merely inferred with regard to extraction amounts. 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.

1.16 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 the Bell Alluvium and the Talbragar Alluvium after a 5 year survey of usage.

1.17 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.

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.

1.18 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.

PART 2

DRAFT WATER SHARING PLAN for the MACQUARIE BOGAN 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 Protecting regulated flows through unregulated water sources

IRN strongly recommends that this WSP contain rules to protect environmental flows and replenishment flows as prescribed in the existing regulated river water sharing plan.

This WSP needs to include a set of procedures for notifying affected licence holders in the Ewenmar Creek Water Source; the Lower Bogan River Water Source; the Lower Macquarie River Water Source; the Marra Creek Water Source and the Marthaguy Creek Water Source when environmental flows are made.

This will clarify the issue of theft of environmental water. This issue has major legal ramifications and needs to be clearly identified.

Environmental water licences purchased by State and Commonwealth Governments must be protected from extraction in the Lower Macquarie. The shepherding of environmental water is a critical issue that must be taken into account in this WSP.

This WSP should also recognize the frequency and volume of replenishment flows as prescribed in the existing regulated river water sharing plan and identify a set of access rules. Replenishment flows serve an additional environmental service and must be protected from upstream extraction.

2.1.2 Extraction limits for unmetered alluvials

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

This WSP should not allow the LTAAEL in the Bell and Talbragar alluvial groundwater sources to be a higher figure than currently estimated. The fact that the extraction figures are based on unrecorded information collected through State Water surveys is of major concern.

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.

Therefore the intention of this WSP to protect only 25% of the long-term average annual rainfall recharge of the Talbragar Alluvial Groundwater Source is inadequate. There is no identified protection of recharge into the Bell, Cudgegong or Upper Macquarie alluvium water sources.

The LTAAEL for the Cudgegong and Upper Macquarie 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.

2.1.3 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.

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.'

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.

More lenient rules that do not protect low flows or maintain the integrity of pools in unregulated streams may contravene the Water Management Act 2000.

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.

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 Macquarie Bogan unregulated water sources.

2.2 Report Cards

2.2.1 Instream Values

IRN supports that a large number of water sources in the Macquarie Bogan unregulated water source have been identified as having high instream values.

These include Backwater Boggy Cowal, Bell River, Burrendong Dam Tributaries, Campbells River, Cooyal Wyaldra Creek, Fish River, Goolma Creek, Lawsons Creek, Little River, Lower Bogan River, Lower Macquarie River, Lower Talbragar River, Macquarie River above Burrendong, Marra Creek, Marthaguy Creek, Maryvale Geurie Creek, Molong Creek, Piambong Creek, Pipeclay Creek, Queens Charlotte Vale Evans Plains Creek, Summerhill Creek, Turon – Crudine River, Upper Cudgegong River, Upper Talbragar River, Winburndale Rivulet.

IRN supports the identification of high cultural values in Ewenmar Creek.

IRN is concerned that instream values have not been attributed to Coolbaggie Creek, Upper Bogan River, Wambangalong Whylandra Creek.

There is concern that environmental values have also not been identified for the Bell Alluvium, Cudgegong Alluvium, Talbragar Alluvium or Upper Macquarie 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:

Backwater, Coolbaggie Creek, Cooyal – Wyaldra Creek, Ewenmar Creek, Fish River, Goolma Creek, Lawson Creek, Little River, Lower Bogan River, Lower Macquarie River, Marra Creek, Maryvale Geurie Creek, Molong Creek, Piambong Creek, Pipeclay Creek, Summerhill Creek, Turon – Crudine River, Upper Cudgegong River, Upper Talbragar River, Winburndale Rivulet

IRN supports that while the following water sources have not been given an assessment of environmental value that there is no trading permitted into the water source:
Coolbaggie Creek, Upper Bogan River, Wambangalong Whylandra Creek.

IRN also supports that no trading occur into Ewenmar Creek.

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

The following trading rules have been identified:

Bell River – Trades permitted only from Molong Creek below the confluence.

Burrendong Dam Tributaries – Trades permitted from Campbells River, Fish River, Queen Charlottes Vale Evans Plains Creek, Macquarie River Above Burrendong, Winburndale Rivulet, Turon Crudine River and Summerhill Creek Water Sources.

Campbells River – Trades permitted only from Macquarie River above Bathurst Management Zone within Macquarie River Above Burrendong Water.

Lower Macquarie River - Trades permitted only from the Lower Macquarie River Upstream or Gum Cowal Management Zone or the Marthaguy Creek Water Source.

Lower Talbragar River – Trades permitted from Upper Talbragar.

Macquarie River above Burrendong – Trades permitted only from the Macquarie River Above Bathurst management zone, Campbells River, Fish River, Queen Charlottes Vale Evans Plains Creek, Winburndale Rivulet, Turon Crudine River, and Summerhill Creek water sources.

Above Bathurst management zone – Trades permitted only from the Campbells River Downstream management zone within the Campbells River water source.

Marthaguy Creek – Trades permitted only from Gum Cowal management zone within the Lower Macquarie River water source.

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 for Town Water Supply

IRN does not support the proposal for a pipeline from the Macquarie River above Burrendong to supply town water to the city of Orange. The proposal suggests that 4ML of water will be purchased from upstream water users to be pumped from a pool in this water source. Because town water supply access licences are exempt from the access rules in this WSP, the high instream values of the Macquarie River above Burrendong will be severely impacted if this project is approved. This issue highlights the importance of access rules to protect pools from overuse for town water supply.

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 in the Macquarie Bogan water source.

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 Bell, Cudgegong, Talbragar or Upper Macquarie Alluvial Groundwater Sources.

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

2.2.3.2 Calculation of LTAAEL

IRN does not support an increase in the LTAAEL for the Bell and Talbragar Alluvial Groundwater Sources after 2013.

2.2.3.3 Trading Rules

IRN supports no trading into the alluvial groundwater sources. Trading within the groundwater systems must be carefully assessed for drawdown impacts.

IRN supports no carryover in the alluvial groundwater sources.

2.2.4 Wellington Caves Karst System

The report card on the Bell River indicates that:

*'The Wellington Caves are located on the Bell River and are an important environmental asset. Current information suggests that the caves are dependent on groundwater rather than surface water flows, however future research may determine surface water flows are important to the karst system. To ensure the proposed rules do not have an adverse impact on the health of the caves an amendment provision has been included in the draft plan which allows the access and trading rules to be changed to better protect the caves if warranted.'*⁷

IRN supports this amendment provision.

However, there is no indication in the proposed rules for the Bell Alluvial Groundwater Source that there may be connectivity with the Wellington Caves. The proposal to allow the LTAAEL to increase in this groundwater source may be at odds with the above amendment provision.

⁷ NSW Office of Water, *Draft Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Source, Bell River Water Source, Report Card 2 of 30.*

2.2.5 Fish River Water Supply Scheme

IRN notes that there is an intention to consider the outcomes of the review of water sharing arrangements for the Fish Water Supply Scheme into this WSP.⁸

IRN has major concerns that Recommendation 3 in the Fish River Water Supply Scheme review⁹ proposes to allocate a licence entitlement to State Water based on the maximum historical usage i.e. 15,876 ML plus an additional 1,000ML for conveyance losses.

IRN recommends that the WSP has an amendment provision that allows for a reduction in this licence entitlement based on efficiency gains in the conveyance system and water use by the major utility and town water utilities.

⁸ NSW Office of Water, *Draft Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Source, Fish River Water Source, Report Card 9 of 30.*

⁹ NSW Office of Water *Fish River Water Supply Scheme Review of Water Sharing Arrangements*