



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:*

Lower Murray Shallow Groundwater Source

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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 Lower Murray Shallow Groundwater Source.

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. In order to maximise ease of implementation within the overall State and Basin-wide framework, there should be consistency both in the terminology and expression of underlying key principles in the WSPs and the Basin Plan. 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 this draft WSP. Many of these issues are matters of concern that have previously been raised by IRN in submissions to the earlier round of Water Sharing Plans and other recent draft Macro 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 the draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source.

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

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;*
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 Water Sharing Plans will need to be accredited under the Murray-Darling Basin Plan, this WSP 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 the recently developed draft WSPs, there is a vast amount that is unknown and unquantifiable in these systems. IRN also notes that, even in instances where data and records are available, there is a vast range of different interpretations of such data. IRN therefore refers to the need of the precautionary approach, ie that where there are threats of serious damage to these freshwater systems, as is acknowledged in many of the draft WSP report cards, lack of full scientific certainty should not be used as a reason to postpone measures to prevent such environmental harm.

1.3 Impacts of the water sharing plans on the water sources

While IRN is pleased to see that the Water Sharing Plans that are 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 so as to deliver a better outcome all round.

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.

1.4 Objectives of water sharing 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.

1.5 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 (Section 1.2 at dot-point five above), 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 the plans are maintaining or improving river health.

In order for any performance indicators of the plans 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.

1.6 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*,³ 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

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

³*Water Management Act 2000* (NSW)

objects of the Basin Plan which recognises that water urgently 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.

1.7 Groundwater sources

IRN believes that at least 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 simultaneously needed to be put into place and effectively implemented.

IRN is concerned about the number of groundwater sources that have been identified as having unassigned water with the potential for future extraction in recent rounds of draft WSPs. As stated previously, IRN does not support the increase in any water extraction unless it can be proven that it can be managed in an ecologically sustainable manner. At this point in time, all of the scientific knowledge on groundwater systems supports the use of the precautionary approach.

1.3 Groundwater connectivity

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.

Once again IRN stresses the importance of a precautionary approach with regard to the determination of a groundwater source as highly connected or otherwise – and believes that further supporting evidence for such determinations should be made available.⁴

1.3 Groundwater dependent ecosystems

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 Schedule 3) of groundwater dependent ecosystems (GDEs) in the plans as well as the potential for the listing of further additional sites when information

⁴ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source – Report card 1 of 1*, at pp.7.

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. 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.

Water Sharing Plans 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.

1.4 Carryover Provisions

IRN considers carryover in groundwater systems as impossible to regulate and highly inappropriate, especially as such 'accounting' can result in loss of flows to the environment when it is most needed. Carryover accounting can negatively impact on levels of groundwater recharge.

IRN objects to the carryover provisions as outlined in the draft WSP⁷ on the basis of groundwater recharge and the need to apply the precautionary principle.

1.5 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, the

⁵ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source*, Order, Schedule 3 at pp.35.

⁶ For example: NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source*, Order, Schedule 1, at pp.33.

⁷ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source*, Order, Part 8 at pp.14; NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source*, Report card 1 of 1, at pp.3.

outcomes from 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 many of the water sources in the recent draft WSPs 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.

1.6 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.

1.7 Basic Landholder Rights

IRN also points out that, particularly in some of the water sources under high hydrological stress, unfettered growth of Basic Landholder rights, for example through subdivisions, will have a negative impact on the shares of all other water users.

WSPs 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.

PART 2 - Draft WSP for the Lower Murray Shallow Groundwater Source

2.1 Extractions

Once again, IRN states that there should be no increase in water extractions and that the purpose of these plans should be to try and address overallocation and overextraction in all of these watersources. As such, all of the other plan provisions should be considered within this context.

IRN is supportive of licences being reduced if extractions have been demonstrated as exceeding the long-term average annual extraction limit for that water source. However, IRN believes that assessment of this should take place earlier than the fourth water year after the WSP is gazetted.

2.2 Carryover

Due to the potential negative impacts on groundwater recharge and the need for a precautionary approach (as discussed earlier in this submission), IRN believes that there should be no allowance carryover of account water from one water year into the next and as such does not support the proposals for rules governing water allocation account management in this draft WSP.

2.3 Groundwater Dependent Ecosystems and Sites

In relation to the rules for water supply works, IRN firstly notes that, while referred to in the draft order,⁸ 'groundwater dependent culturally significant sites' are not defined in Schedule 1.⁹ As allowable distances for works approvals from these sites are prescribed, IRN believes a definition of this term is required. IRN is concerned about how the Office of Water will identify such sites prior to each works approval when no specific sites are currently defined or listed.

The draft order contains rules for bores located near 'sensitive environmental areas',¹⁰ however, this term is also not defined in Schedule 1. Rather the draft order then goes on to describe rules for distances from 'groundwater dependent ecosystems' (a term which is defined in Schedule 1). IRN believes that any differences between the terms should be clarified and both included in Schedule 1.

As outlined earlier in the submission, IRN does not support the allowable distance proposals for bores in relation to groundwater dependent ecosystems. IRN does not believe that bores should be allowed within 100 metres (as proposed for Basic Landholder Rights access licences) or 200 metres (as proposed for non-Basin Landholder Rights access licences) of a high priority GDE.¹¹ IRN believes a larger and more precautionary buffer zone should be prescribed, excluding bores from within at least 400 metres of a GDE. These rules should be more in keeping with the distance of 500 metres which is proposed for high priority Karst systems.

The draft refers to excluding non-Basic Landholder Rights within a distance more than 200 metres from a high priority GDE '*if likely to cause drawdown*'. No details of this 'likelihood' determination is included in the draft WSP. IRN believes it appropriate that greater distance rules should be adopted in accordance with the precautionary approach.

IRN is very concerned about the statement that '*distance restrictions do not apply if the Minister is satisfied that; no drawdown of water will occur at the perimeter of any GDE listed in the plan*'. IRN believes that such an inclusion needs qualification, and that the levels of uncertainty around GDEs at the current time are too high to warrant such a provision. IRN maintains that distance restrictions from GDEs should be mandatory.

⁸NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source, Order*, Part 8, pp.20.

⁹ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source, Order*, Schedule 1.

¹⁰NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source, Order*, Section 41 at pp.19.

¹¹NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source, Order*, Section 41.

IRN believes that existing bores located within one kilometre from a GDE should be targeted for reductions in extraction and as such is concerned about this not being prioritised in the plan or addressed via changes to the restriction distances.

While IRN notes that there are currently no identified high priority groundwater dependent ecosystems in this groundwater source,¹² IRN urges further work to assess if this is in fact the case. IRN is not convinced that the distance rules for bores provide adequate protection of such areas if they were identified – and therefore believes the WSP should be strengthened for future listed sites.

IRN supports the potential for addition of further GDE sites based on further studies, and believes that further research into the identification and understanding of GDEs should be priority.

2.4 Groundwater connectivity

Once again IRN stresses the importance of a precautionary approach with regard to the determination of a groundwater source as less highly connected – and believes that further supporting evidence for such determinations should be made available.¹³

IRN believes that more information on the connectivity between this shallow groundwater should be presented – as a shallow groundwater system, connectivity could be a quite significant between the floodplain and other surface water systems. These concerns are highlighted in the Report Card where it is stated that “*groundwater which is not extracted or used by the environment locally recharges surface water source and other groundwater sources downstream*”.¹⁴

IRN does not support only actively managing groundwater and surface water connectivity for systems classified as ‘highly connected’ as IRN believes that connectivity between these systems is often complex and further research and study of particular areas is required.

¹² NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source, Order, Schedule 3*.

¹³ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source – Report card 1 of 1*, at pp.7.

¹⁴ NSW Office of Water, *Draft Water Sharing Plan for the Lower Murray Shallow Groundwater Source – Report card 1 of 1*, at pp.8.