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Submission
Draft NSW Floodplain Harvesting Policy
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Introduction

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

IRN appreciates the opportunity to comment on the draft Floodplain Harvesting Policy (the policy). IRN also strongly supports the development and implementation of the policy as this form of water extraction has remained a significant gap in water reform to date.

IRN has particular concerns about the implications of the policy on the health of the rivers, wetlands and floodplains and seeks to provide constructive comments that will bring the draft policy in line with state and federal legislative objectives and national commitments under the National Water Initiative (NWI) and the Basin Plan.

IRN recognises that some of the key recommendations made in our submission to the Draft Floodplain Harvesting Policy Framework, released for comment in 2008, have been included in the current draft. IRN strongly supports the following elements of the policy and urges that they remain unchanged:

1. The identification of the *Water Management Act* 2000 as the appropriate legislation underpinning the policy and all environmental assessment processes and criteria applied under the policy;
2. Maintaining the non-compensable aspect of any floodplain harvesting licence, as is currently in the draft policy;
3. That floodplain harvesting limits could be set not only within MDB Cap limits but below them;
4. That works constructed without authorisation should not be approved even where they have sought retrospective permission; and
5. That floodplain harvesting extraction should be included within current Water Sharing Plans.

However, there are a number of key areas in the policy that were highlighted as problems in the previous submission and still remain. IRN reaffirms:

- i. That the draft policy lacks explicit details on how environmental water regained through the adequate regulation of floodplain harvesting and water entitlement recovery will be provided with legal recognition and protection;
- ii. That illegal works and works that steal, or are likely to steal, environmental water must not be retrospectively approved, and must be decommissioned;
- iii. That there should be a removal of any carryover entitlement;
- iv. That the non-perpetual aspect of any floodplain harvesting licence should be maintained, as is currently in the draft policy framework;
- v. It must be ensured that there is a sunset clause within the policy for these licences to enable a review of these licences;
- vi. That floodplain harvesting limits should be set according to sustainable levels of extraction, determined in light of best available science and climate change estimates, which may well mean ensuring floodplain harvesting is not only within MDB Cap limits but below them;
- vii. That works with an application pending but not constructed should not be approved;
- viii. That works licensed for flood control under Part 8 of the Water Act 1912, and without pending water extraction licence applications, should be treated as illegal in line with all other works not licensed for extraction;
- ix. That rainfall harvesting and tailwater returns should be addressed within this policy; and
- x. The importance of upholding the precautionary principle, especially when considering how much is yet to be understood about how water operates within the Basin.

IRN has four additional matters to raise:

- a. The use of annual averaging in water accounting has adverse impacts on environmental outcomes.
- b. The consideration of the impact of floodplain harvesting on groundwater recharge is critical.
- c. Unlicensed floodplain works should not be automatically licensed because a great many of them would not meet specifications of existing licensed floodplain works nor current legislation.
- d. The need for adequate resources to implement the policy.

Submission

1. Key Points of the Floodplain Harvesting Policy:

IRN supports the licensing of floodplain harvesting extractions only in the case of causing no harm to the environment. While the policy aims to implement no growth in overall extractions on a valley-wide basis, requirements under the NWI are to “complete the return of all currently over-allocated or overused systems to *environmentally-sustainable levels of extraction*”¹.

IRN supports the requirement for a water supply work and a floodplain harvesting water access licence issued under the *Water Management Act 2000* and the assessment eligibility criteria of works constructed prior to the ministerial announcement on 3 July 2008.

The policy needs to state that all other works are illegal and will be decommissioned.

IRN fully supports that outcomes of the assessment process may require modification or decommissioning of works and that authorised works may not receive licences for the full volume they are capable of harvesting.

The four staged implementation of the policy needs to include reference to the regulation and decommissioning of all unauthorised works.

2. Purpose and need for the policy

While the purpose and need for the policy is to comply with both the Water Management Act 2000 and the NWI, there needs to be stronger recognition of the powers of the Federal Water Act 2007 and the development of the Basin Plan. IRN has concerns that the draft policy may cause amendments to transitional or interim water resource plans that will cause them to be less consistent with the Basin Plan.

3. Scope of the policy

IRN supports 3.1 Definition of floodplain and 3.3 Types of floodplain harvesting.

In relation to 3.2 Definition of floodplain harvesting, our previous submission stated that ‘volumes of water captured and used via rainfall harvesting and tailwater returns should also be included within this policy and regulated effectively.’

Tailwater returns is an activity that needs to be publicly accounted for, with monitoring, evaluation and reporting. It should be noted that tailwater return systems potentially can also serve to harvest rainfall.

IRN maintains that volumes of water captured and used via rainfall harvesting and tailwater returns should also be included within this policy and regulated effectively. They are a component of surface water extraction and so fall within

¹ NWI objective 23(iv)

the over-allocation and over-extraction issues, and NWI commitments that relate to water extraction.

4. Implementation of the policy

IRN supports the four proposed stages of the implementation policy. However, there are major concerns about the adequate resourcing and timing of these stages.

There is concern about the use of averaging for water accounting in regions where rainfall fluctuates greatly at different seasons and over different years. This is particularly the nature of the Darling Basin.

Floodplain harvesting continues to impact on the health of rivers, wetlands, floodplains and connected groundwater systems in NSW and needs to be addressed with some urgency. The small size of flood events occurring during the current prolonged drought period means that all flood waters could be harvested in some catchments.

This policy needs to be finalised and implemented as quickly as possible.

4.1 Implementation stage 1 – determining eligibility for assessment.

IRN cannot support the inclusion of works that had not received approval prior to 3 July 2008 as described in 4.1.2 and 4.1.3.

None of these works should be eligible for authorisation and should be decommissioned.

4.1.2 'works constructed on floodplains and which undertook floodplain harvesting activities prior to 3 July 2008 that are currently awaiting approval pursuant to Part 2 or Part 8 of the *Water Act 1912*, provided that the application was submitted prior to 3 July 2008'

These are, in effect, illegal structures. IRN cannot support the granting of retrospective approval to illegal activities. This is a very poor precedence and will not assist in achieving the aims of NWI or Basin Plan.

4.1.3 'works for which an application was submitted pursuant to Part 2 or Part 8 of the *Water Act 1912* and have not yet been constructed, provided that the application was submitted prior to 3 July 2008.'

IRN cannot support the consideration of proposed structures as they may cause an increase in floodplain harvesting activity and were not included in the LTAAEL for regulated WSP.

Existing works for which a Part 2 or Part 8 application was required and not made before the 3 July 2008 cut-off date are illegal structures and should be decommissioned immediately.

Existing works should be removed that are determined not eligible for further assessment.

4.2 Implementation stage 2 – work assessments

The environmental review and capability assessment must take into account the protection of environmental water, not only the planned and adaptive environmental water but also the environmental water identified in WSP as additional to allocated water.

All works that are likely to steal environmental water, whether deliberately or inadvertently must be removed.

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

For example, in some instances channels have been deliberately placed across floodways, or flood runners dug out in order to allow environmental water to flow into these channels. Such works must be removed where the environmental water cannot be protected, such as where gates cannot restrict the flow of environmental water into these channels. If these works also transport irrigation water directly from the river channel piping infrastructure should be considered.

Hence the policy must also ensure that landholders are not left with works that will take environmental water and be in breach of their licences.

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

4.2.1 Capability assessment

More detail is needed about the certified on-farm water infrastructure plan. The capability assessment must be undertaken by consultants certified by the NSW Office of Water (NOW) or by NOW staff. This is critical information for the outcome of issuing floodplain harvesting licences and must be independent of the property owner.

4.2.2 On-farm monitoring strategy

IRN supports the strongest, most transparent form of monitoring system to be established for measuring floodplain harvesting activities.

4.2.3 Environmental assessment

IRN supports the range of potential environmental impacts identified in the policy with the addition of groundwater connectivity, impacts on fish passage and breeding opportunities and the potential for interfering with environmental flow releases.

The environmental assessment must be undertaken by independent experts to provide the range of potential environmental impacts that the floodplain structures may cause.

4.3 Implementation stage 3 – determining floodplain harvesting long-term average annual extraction limit (LTAAEL)

The current LTAAELs in gazetted Water Sharing Plans (WSP) are possibly outside the requirements of the NWI and the aims of the Basin Plan to establish sustainable diversion limits (SDL).

The SDL will replace the Murray-Darling Basin Ministerial Council Cap (the Cap) and will require a further reduction in water extractions across the basin.

While commenced regulated river WSPs include an estimate of floodplain harvesting extractions, the setting of new floodplain harvesting limits within the LTAAEL is an opportunity to wind back water allocations in these river valleys. This will help to bring the NSW water resource plans in line with the Basin Plan.

The LTAAEL must exclude water that has been harvested by structures that are illegal or ineligible under the assessment criteria. The water saved through the decommissioning of these floodplain structures must be protected for the environment and not shared across remaining floodplain harvesting licences.

Floodplain harvesting limits should be set according to sustainable levels of extraction, determined in light of best available science and climate change estimates, which may well mean ensuring floodplain harvesting is not only within MDB Cap limits but below them.

4.3.1 LTAAELs in regulated river water sources

The computer models used to determine LTAAELs for regulated rivers are now out of date in relation to climate scenarios. The 1:100 year drought scenario has now been exceeded and the models cannot be recalibrated until after the drought breaks.

This has had a significant impact on the predicted availability of water to the environment. The lack of high level floods across all NSW catchments for the last 10 years, with current extraction allocations, has caused major damage to river health and water dependent ecosystems.

Floodplain harvesting has the capacity to capture small and medium sized floods and therefore to compound the long-term environmental damage.

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

The use of annual averaging over a period of years does not adequately reflect the environmental impact of this type of water extraction. Water dependent ecosystems have adapted to high levels of variability in the timing and duration of flood events. Floodplain harvesting activities interfere with this natural variability.

4.3.1.1 Setting the floodplain harvesting LTAAELs for commenced regulated river plans

IRN does not support using the estimated level of LTAAEL that existed when plan rules and conditions were set. Many WSPs have been turned off because river catchments are now outside the drought of record.

IRN also does not support the proposal to set the separate LTAAEL for floodplain harvesting. The policy should recognise the hydrological connections between floodplain harvesting extractions and other forms of extraction, and not arbitrarily split the existing LTAAEL in regulated rivers between floodplain harvesting and

other extractions. This approach would seek to give floodplain harvesting far greater security than it was ever intended to have.

It is also of major concern that the policy states that setting separate LTAAELs 'may result in the allowable extractions attributed to the floodplain harvesting component being more than....calculated under the Cap.'

This could have major implications on the availability of environmental water identified in the WSPs.

The setting of the floodplain harvesting share is an opportunity to return currently over-allocated or overused systems to environmentally-sustainable levels of extraction as required by NWI.

IRN strongly advocates that the floodplain harvesting share of LTAAELs be set at a lower level than estimated in WSPs. Particularly in river systems where structures have not been approved under the eligibility criteria and have been modified or decommissioned.

4.3.1.2 Setting floodplain harvesting LTAAELs for new regulated river plans

This section of the policy appears to be unnecessary. IRN believes that all regulated rivers in NSW already have WSPs. LTAAELs for any new plan will need to comply with the Basin Plan.
4.3.1.3 Incorporating floodplain harvesting LTAAELs in WSPs

IRN strongly supports that amendments to WSPs to bring effect to floodplain harvesting licensing will include clauses establishing environmental rules. Event management rules such as commence-to-pump rules, to allow the first flush of flood waters through the system, are critical to environmental health.

4.3.1.4 Managing to the LTAAEL in regulated river water sources

The splitting of the existing LTAAEL gives the floodplain harvesting licences an unrealistic high level of security. The estimate for the LTAAEL should be very conservative in the outset and be managed as a single unit. The water extracted by floodplain harvesting is very important for environmental health and should not be given away lightly.

4.3.2 LTAAELs in unregulated river water sources.

Most areas of inland NSW do not have macro WSP developed for unregulated rivers. The removal of structures assessed as illegal or ineligible should provide an increase in environmental water flows in the unregulated systems.

This water should be protected through the Murray-Darling Basin as additional water to meet the NWI objectives and SDLs.

The unregulated river LTAAEL should also be set less than allocated through volumetric conversions.

4.4 Implementation stage 4 – issuing water supply work approvals and water access licences

IRN does not support the issuing of new water licences for floodplain harvesting.

The fact that this water extraction has been occurring in the past without any formal recognition should not result in the NSW Government granting free secure access to water in perpetuity.

Access licences for floodplain harvesting should be purchased through trading of supplementary licences or general security licences.

4.4.1 Issuing work approvals

The policy needs to reiterate the conditions of floodplain harvesting work approvals. The successful applicant must:

- Monitor the volume of water taken by the works
- Keep an on- farm water balance
- Mitigate environmental impact
- Operate works to restrict harvesting to a specific volume

This section of the policy should also identify that unapproved works must be decommissioned within a given timeframe.

4.4.2 Determining the share components for individual licences

Floodplain harvesting is no more variable than supplementary water access and, in fact, will often occur from the same rainfall events. The floodplain harvesting LTAAEL must not include the water saved from the decommissioning of illegal and ineligible works.

The share components should be derived from a smaller LTAAEL than is identified in regulated river WSP. Shares in unregulated river systems cannot be allocated until after the macro plans have been developed. The unregulated river LTAAEL should also be less than allocated through volumetric conversions.

IRN cannot support the proposal to have carryover for floodplain harvesting. Supplementary water access licences do not have carryover because it is opportunistic access to water. Floodplain harvesting licences should be managed under the same principles. See 4.4.3 for further detail.

IRN supports the policy proposal to not use history-of-use information in determining the share.

4.4.3 Water account initialisation and carryover

IRN totally opposes the proposal to allow carryover of floodplain harvesting access. By proposing that water credited to the account can be twice the share component means that works must be capable of carrying twice the amount of licensed water. This rule will be impossible to regulate and will cause a growth in water use.

All works issued with an approval and access licence must only be capable of holding the licence share component.

The proposal that 'annual average use over any three-year sequence will be limited to three times the share component' means that any sized flood could be harvested in one event within a three year period, especially if the flood occurs between two water years. This proposal has major implications on the size of structures and management of water harvesting.

The proposed carryover rules will allow all small and medium and substantial proportion of larger flood events to be harvested, impacting on downstream

water users and ecosystems. This is in conflict with the objectives of the NWI and Basin Plan.

The recent climatic conditions in the Murray-Darling Basin have seen very few flood events of any significance and this may become the norm under climate change conditions.

The disallowance of carryover rules ensures that licence holders are not given unrealistic expectations about the volume of their licences or ability to take substantial amounts of water in a climate-challenged present and future. Under such scenarios the environment will disproportionately bear the losses as floodplain harvesters would be able to take most of the infrequent flows that enter the system.

The access rules to floodplain harvesting licences are critical and should not be deferred to individual WSPs. The policy must outline the type of access rules necessary to allow the floodplain and associated water dependent ecosystems to benefit from the variety of flood events that occur.

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

4.5 Review process

IRN proposes that as part of the review process:

- Works submitted for approval that are not geographically located on a designated floodplain area must be reviewed for eligibility under the Harvestable Rights Order of the *Water Management Act 2000*. Directions must be given by NOW to remove or modify the structures if they capture more than 10% of rainfall runoff.
- Works determined as ineligible for assessment must be decommissioned within a given timeframe
- The share component of a floodplain harvesting licence must determine the capacity of the works, not vice versa.

IRN also proposes that floodplain harvesting licences not be issued in perpetuity. A 10 year review of environmental impact and the management of the LTAAEL is critical for river health and floodplain connectivity. Licence shares should be remove or adjusted accordingly.

4.6 Replacement and refurbishment works

The policy should be clear that any replacement or refurbishment of existing works refers only to those eligible for works approval.

All replacement or refurbishment should automatically require a new approval under the *Water Management Act 2000* with a full environmental review undertaken prior to construction.

This is critical for the LTAAEL to be managed effectively and for meeting the objectives of the NWI and Basin Plan.

5. Characteristics of floodplain harvesting licences

5.1 Tenure

IRN does not support floodplain harvesting access licences having perpetuity. A 10 year review of environmental impact is needed.

The creation of a separate category of licence by clause 8 of the *Water Management (General) Regulation 2004* further emphasises that the NSW Government has acted outside the objectives of the NWI agreement made in the same year.

Floodplain harvesting licences should have the same tenure as supplementary licences and be managed in a similar way.

5.2 Compensation

IRN supports non compensable rights for floodplain harvesting access licences.

5.3 Trading

IRN does not support trading of floodplain harvesting entitlements. This has major implications on the size of the works being traded into.

The impacts of trading will be difficult to regulate. Not only would the vendor be required to demonstrate they can no longer undertake floodplain harvesting associated with the share component sold, the purchaser would have to undertake an approvals process to refurbish existing works to enable a larger share to be harvested.

The only holders of access licences would already have a works approval agreed to under the conditions of capability assessment and environmental impact. No new licence holders or approved works could enter the market because the application for works would be post 3 July 2008.

The proposal to introduce trading contradicts the whole process of implementation laid out in the policy for gaining an entitlement.

Trading could cause an increase in water extraction.

5.4 Floodplain harvesting and harvestable rights

The free right to harvest 10% of rainfall runoff must be considered when calculating the final LTAAEL for floodplain harvesting licence shares.

6. Relationship with the Commonwealth Water Act 2007 and Basin Plan

IRN has identified a number of key areas where this policy may compromise the consistency of the transitional or interim water resource plans with the Basin Plan.

These are:

a. Considering eligibility of:

- 'works constructed on floodplains and which undertook floodplain harvesting activities prior to 3 July 2008 that are currently awaiting approval pursuant to Part 2 or Part 8 of the *Water Act 1912*, provided that the application was submitted prior to 3 July 2008'
- 'works for which an application was submitted pursuant to Part 2 or Part 8 of the *Water Act 1912* and have not yet been constructed, provided that the application was submitted prior to 3 July 2008.'

b. The current LTAAELs in WSP need to be revised because they are possibly outside the requirements of the NWI and the aims of the Basin Plan to establish sustainable diversion limits (SDL).

The SDL will replace the Murray-Darling Basin Ministerial Council Cap (the Cap) and require a further reduction in water extractions across the basin.

c. The computer models used to determine LTAAELs for regulated rivers are now out of date in relation to climate scenarios. The 1:100 year drought scenario has now been exceeded and cannot be recalibrated until after the drought breaks.

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

e. The setting separate LTAAELs 'may result in the allowable extractions attributed to the floodplain harvesting component being more than....calculated under the Cap.'

This could have major implications on the availability of environmental water identified in the WSPs.

f. The free issuing of a new category of water access entitlement

g. The proposed carryover rules will allow medium and larger flood events to be harvested, impacting on downstream water users and ecosystems.

h. Trading of floodplain harvesting rights could cause an increase in water extraction.

7 Additional Matters

7.1 Groundwater implications

Flood plain harvesting has the potential to impact on groundwater recharge. This should be acknowledged as a factor within the policy, along with the need to better understand the hydrological relationships with ground water. For groundwater issues it is essential to apply the precautionary principle. Just as in all licensing and LTAAEL determinations.

7.2 Resourcing

It will be important to ensure that the State is adequately resourced to enable effective implementation of this policy as a component of overall water management in keeping with agreed national obligations under the NWI and in compliance with the impending Basin Plan.

7.3 Precautionary Principle

Given there is so much detailed information to be researched, modelled and determined it is essential that the precautionary principle be upheld. The recent announcements that the latest Darling floods are not going to reach the Murray highlight how much there is still to understand about the operation of water in the Basin generally, and reinforces the importance of a precautionary approach.