



Department of
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Office of Water

NSW Floodplain Harvesting Policy



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Acknowledgments

Cover Image (Peter Terrill) The Paroo River in flood near its confluence with the Darling River upstream of Wilcannia

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Key points of the Floodplain Harvesting Policy

- Under the *Water Management Act 2000*, water extractions, including floodplain harvesting extractions, must be taken under an appropriate water access licence, a basic landholder right or a licence exemption. The NSW Floodplain Harvesting Policy provides a framework for licensing floodplain harvesting extractions.
- The NSW Floodplain Harvesting Policy applies to all floodplain harvesting within New South Wales.
- Floodplain harvesting extractions will be managed within existing long-term average annual extraction limits. There will be no growth in overall extractions on a valley-wide basis as a result of the implementation of this policy
- All floodplain harvesting activities will require a water supply work approval and a floodplain harvesting access licence authorised under the *Water Management Act 2000*. At commencement of implementation of the policy, the NSW Office of Water (the Office) will invite persons interested in obtaining the necessary authorisations to undertake floodplain harvesting activities to submit a registration of interest.
- On 3 July 2008, the Minister for Water announced a new policy with regard to the construction of works which facilitate the harvesting of water occurring on the floodplain.
- Only works constructed on or before 3 July 2008, or for which a valid application under Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000* was made on or before that date, are eligible for assessment under this policy.
- Not all works that are capable of floodplain harvesting will necessarily be authorised for floodplain harvesting activities. For example, existing works for which an application was required and not made under Part 2 or Part 8 of the *Water 1912* on or before the 3 July 2008 cut-off date will not be authorised for floodplain harvesting. A floodplain harvesting access licence may not be issued for the full volume a work that is authorised for floodplain harvesting activities is capable of harvesting or historically harvested as of the 3 July 2008 cut-off. Depending on the outcomes of the assessment process, works may require modification or decommissioning.
- Implementation of this policy will take place in five stages:
 - *Registrations of interest* – The Office will request water users to submit registrations of interest to obtain the necessary authorisations to undertake floodplain harvesting activities.
 - *Determining eligibility* – The registrations of interest will be examined against eligibility criteria to determine which works used or proposed for floodplain harvesting will qualify for further assessment.
 - *Issuing work approvals* – Eligible works and applications for such works will be assessed to determine their capability to harvest floodplain water, and where such works lack an approval or are proposed to be operated outside the terms of an existing approval, their impacts on the environment. Based upon the information gathered through the capability and environmental assessments, the Office will issue work approvals to individuals.
 - *Incorporating floodplain harvesting in water sharing plans* – Existing water sharing plans will be amended to set the floodplain harvesting long-term average annual extraction limit, establish rules for the management of floodplain harvesting, and provide that floodplain harvesting access licences will be exercised in accordance with those rules. For new plans, these actions will be taken as necessary at the time the plan is made.

- *Issuing floodplain harvesting access licences* – The Office will notify licence holders of the terms and conditions of floodplain harvesting access licences that are to be issued. Water accounts for individual licences will be credited with initial allocations.
- In order to facilitate the orderly and equitable processing of registrations of interest in work approvals and floodplain harvesting access licences, the Office will establish a review process to consider submissions about whether the floodplain works are eligible for assessment under this policy and about the share component of a floodplain harvesting licence as set out in preliminary determinations.
- Trading of floodplain harvesting entitlements (previously known as permanent trading) will be permitted subject to the development of an appropriate trading framework that defines the types of trades permitted and any relevant trading restrictions. Prior to any trade of floodplain harvesting entitlement being approved, the current owner of the floodplain harvesting licence (the vendor) will need to demonstrate how they will ensure that their works no longer undertake the floodplain harvesting associated with the share component to be sold.
- Trading of floodplain harvesting water allocations (previously known as temporary trading) will not be allowed initially because of the difficulties of ensuring that such trades do not cause inappropriate impacts. These types of trades will be considered as soon as appropriate metering, monitoring, administrative and accounting processes can be put in place to facilitate such trades.

Purpose of and need for the policy

The purpose of the NSW Floodplain Harvesting Policy is to manage floodplain water extractions more effectively in order to protect the environment and the reliability of water supply for downstream water users, ensure compliance with the requirements of the *Water Management Act 2000* and meet the objectives of the National Water Initiative.

The unconstrained harvesting of water from floodplains reduces the amount of water reaching or returning to rivers. This decreases the amount of water available to meet downstream river health and wetland and floodplain needs. Floodplain harvesting can affect the connectivity between the local floodplain wetlands and the river through the loss of flow volume and the redirection of flood flows. It also erodes the reliability of water supply to downstream water users.

In order to meet the objectives of the National Water Initiative, New South Wales is required to account for and license the extraction of water taken by floodplain harvesting works.

The *Water Management Act 2000* requires all water extracted from a water source in NSW to be licensed, unless that water has been taken under a basic landholder right or an applicable licence exemption.

Effective management of floodplain harvesting activities can only be achieved if there is a licensing system established that clearly articulates the access and sharing arrangements for these extractions.

Scope of the policy

This policy applies to all floodplain harvesting activities, as defined below, in New South Wales.

Definition of a floodplain

For purposes of this policy, 'floodplain' means any area of land designated as a floodplain under the *Water Management Act 2000* or the *Water Act 1912*. The policy applies to floodplain harvesting activities on properties where all or part of that property lies within the designated floodplain.

There are existing floodplain designations in each of the valleys in NSW where there is significant floodplain harvesting. In some cases these designations may be adequate to implement this policy; in others they may need to be tailored to include the location of existing floodplain harvesting works. The Office will assess whether changes to existing designations are needed after receiving registrations of interest in obtaining a water supply work approval and access licence for floodplain harvesting.

Definition of floodplain harvesting

Floodplain harvesting is the collection, extraction or impoundment of water flowing across floodplains, excluding the following types of water extraction:

- taking of water under a water access licence that is not a floodplain harvesting access licence;
- taking of water under a basic landholder right, including water taken under a harvestable right;
- taking of water under an applicable water access licence exemption under the *Water Management Act 2000*;
- runoff of irrigation water and stormwater which is subsequently captured in tailwater return systems or other means in accordance with licence conditions or methods which have been approved by the Office; for example, in accordance with appropriate industry Best Management Practice.

Floodplain harvesting and harvestable rights

Water taken under a harvestable right is not included within the definition of floodplain harvesting. However, because harvestable rights water can be captured by the same infrastructure as floodplain extractions, it is important to specify the regulatory distinction between the two types of water extraction.

All capture of harvestable rights water must be done in accordance with any Harvestable Rights Order that is in force under the *Water Management Act 2000*. Within most of New South Wales, landholders are able to construct a dam of a size that has been estimated to capture the equivalent of 10 per cent of the average regional rainfall runoff for their respective property size. The Maximum Harvestable Right Dam Capacity can be calculated for any property using a publicly available, web-based calculator. When assessing the volume of floodplain harvesting extractions, the allowable harvestable right will be assumed to have been taken.

Types of floodplain harvesting

Floodplain harvesting works can generally be put into two categories:

1. Purpose-built works specifically built to facilitate floodplain harvesting, including pumps, structures or other works that divert water into or from storages, supply channels, depressions or otherwise impound flows.

2. Works built for multiple purposes that have the effect of facilitating floodplain harvesting, such as:
 - levees, conveying works and off-river storages constructed in billabongs or depressions;
 - below-ground level channels from which the water is delivered into storages.

Floodplain works that do not facilitate the collection, extraction or impoundment of water flowing across floodplains are not considered to be floodplain harvesting works. Such works do not require any approval under this policy that is additional to an approval already required for other purposes under the *Water Act 1912* or the *Water Management Act 2000*.

The process of implementation

Implementing the Floodplain Harvesting Policy will be a complex undertaking.

The implementation process has been designed to address these complexities. Implementation will begin with a request for registrations of interest from water users in obtaining work approvals and access licences for floodplain harvesting and concludes with issuing the relevant work approvals and notifying licence holders of the terms and conditions of their access licences.

Implementation of the policy will take place in five stages.

1. Registrations of interest – The Office will request water users to submit registrations of interest to obtain the necessary authorisations to undertake floodplain harvesting activities.
2. Determining eligibility – The registrations of interest will be examined against eligibility criteria to determine which works used or proposed for floodplain harvesting will qualify for further assessment.
3. Issuing work approvals – Eligible works and applications for such works will be assessed to determine their capability to harvest floodplain water, and where such works are proposed to be operated outside the terms of an existing approval, their impacts on the environment. Based upon the information gathered through the capability and environmental assessments, the Office will issue work approvals to individuals.
4. Incorporating floodplain harvesting in water sharing plans – Existing water sharing plans will be amended to set the floodplain harvesting long-term average annual extraction limit, establish rules for the management of floodplain harvesting, and provide that floodplain harvesting access licences will be exercised in accordance with those rules. For new plans, these actions will be taken as necessary at the time the plan is made.
5. Issuing floodplain harvesting access licences – The Office will notify licence holders of the terms and conditions of floodplain harvesting access licences that are to be issued. Water accounts for individual licences will be credited with initial allocations.

The Office of Water will initiate implementation of the policy by setting the framework within which information on floodplain harvesting will be collected, works and extractions will be assessed, and work approvals and licences will be authorised. This framework will include the following:

- *Designating floodplains* – New floodplains will be designated and existing designations will be amended as appropriate. Initially, designations will cover the five northern valleys where floodplain harvesting is most prominent: the Border Rivers, Gwydir, Barwon-Darling, Namoi and Macquarie. Additional floodplains will be designated as necessary.
- *Providing a temporary exemption for floodplain harvesting from specified licensing and approvals requirements of the Water Management Act 2000* – An exemption is required so that floodplain harvesting by works constructed on or before 3 July 2008 can continue while

the policy is being implemented. The exemption will apply only for the time required to issue work approvals, amend water sharing plans and issue floodplain harvesting access licences. Once implementation has concluded for a given valley, the exemption will lapse and all floodplain harvesting activities will require a water supply work approval and a floodplain harvesting water access licence authorised under the *Water Management Act 2000*.

- *Providing that applications under the Water Act 1912 for Part 2 and Part 8 approvals can be assessed as applications for work approvals under the Water Management Act 2000* – All existing applications for Part 2 and Part 8 approvals will be assessed under the *Water Management Act 2000*. This ensures that all works that do not have an existing approval are assessed according to common criteria and that individuals with existing applications are not required to submit entirely new applications.
- *Exempting applications for work approvals from the advertising and appeal provisions of the Water Management Act 2000* – Application of the normal advertising and appeal provisions of the *Water Management Act 2000* is not appropriate under this policy, which involves assessment of and issuing approvals for a substantial number of existing works. The environmental assessment process described in this policy will consider environmental issues associated with individual works that are not covered by an existing approval, and the collective impact of flood works on floodplain flow paths will be considered in rural floodplain management plans.
- *Seeking additional information* – Existing applications may not include all information necessary to grant work approvals and authorise floodplain harvesting access licences. The Minister will request information where necessary to implement the policy.
- *Establishing a review process* - There will be a review process to consider preliminary determinations made by the Office of Water and anomalies at several points in the process. Further details on the review process are below.
- *Setting the criteria by which floodplain harvesting access licences will be issued* – Floodplain harvesting access licences will be issued in accordance with objective criteria. The criteria are described in a subsequent section of this policy.

Registration of interest

The Office will invite persons interested in obtaining the necessary authorisations to undertake floodplain harvesting activities to submit a registration of interest (ROI). The purpose of inviting ROIs is to ensure that the Office has the necessary information to determine eligibility for detailed assessment under the policy.

At this initial stage, persons interested in obtaining floodplain harvesting authorisations will be required only to submit information sufficient to make a determination of eligibility. If the Office requires additional information in order to undertake the detailed capacity and environmental assessments necessary to issue work approvals and authorise floodplain harvesting access licences, it will be requested at the time of the assessment.

Determining eligibility

The second stage of implementation is to determine which works will be eligible for the detailed assessments undertaken for the purposes of issuing work approvals and authorising floodplain harvesting access licences. The following categories of works will be considered eligible works:

1. Works constructed on floodplains in accordance with an approval granted pursuant to Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000*, and which were capable of floodplain harvesting as of 3 July 2008;

2. Works constructed on floodplains and which were capable of floodplain harvesting as of 3 July 2008 that are currently awaiting approval pursuant to Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000*, provided that the application was submitted on or before 3 July 2008;
3. Works that have not yet been constructed for which an application was submitted pursuant to Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000* and has not yet been determined, provided that the application was submitted on or before 3 July 2008;
4. Works constructed on floodplains which were capable of floodplain harvesting as of 3 July 2008 for which it can be established, to the satisfaction of the Minister, that the Office of Water did not require an approval under Part 2 or Part 8 of the *Water Act 1912*. In submitting an ROI relating to this category, the person submitting the ROI should provide evidence that the Office of Water did not require an approval for the works in question.

Existing works for which an application under the *Water Act 1912* or the *Water Management Act 2000* was required and not made on or before the 3 July 2008 cut-off date will not be authorised for floodplain harvesting.

An assessment of eligibility against the criteria above will be conducted and persons who submitted an ROI will be notified of the Office's preliminary determination. If a person who submitted an ROI disagrees with a preliminary determination of eligibility for assessment, that person may request to have the preliminary determination reviewed. The review process is described in more detail later in this policy.

After requests for review have been considered, the Office will make final determinations of eligibility for further assessment. A determination that an ROI is eligible for further assessment does not guarantee that a work approval or a water access licence will be authorised. For existing works that are determined not to be eligible for further assessment, the Office may issue directions to remove or modify the works.

Issuing work approvals

The third stage of implementation will be to issue work approvals according to the normal process under the *Water Management Act 2000*. All works determined to be eligible for assessment will undergo a capability assessment. Works will also undergo an environmental assessment, except for works with a Part 2 or Part 8 or *Water Management Act 2000* approval which will be operated within the terms of that approval. Applicants for work approvals will be required to supply any information requested by the Office to enable assessment of their works. They will also be required to provide an on-farm monitoring strategy to demonstrate how their floodplain harvesting extractions can be measured and monitored.

Based upon the information gathered through the capability and environmental assessments, the Office will issue work approvals to individuals.¹ The information gathered in this stage will also assist with determining the share components for floodplain harvesting licences.

Not all works that are currently engaged in or capable of floodplain harvesting will necessarily be authorised for floodplain harvesting activities. For example, some works without existing approvals may be refused or required to be modified on environmental grounds. Work approvals may be issued with conditions to mitigate environmental impacts or to ensure that works can be operated to restrict harvesting to a specified volume.

¹ With the consent of the applicant, a combined approval can be issued where a single floodplain harvesting work would require a flood control work approval and a water supply work approval.

Capability assessments

The capability assessment will be used to determine the capability of works to harvest floodplain water. The assessment will consider the configuration of the works and any existing water access licences. The capability assessment will take into account capacity to store and use water, the frequency, magnitude and duration of flood events at that location, extraction capability and irrigation behaviour. This assessment is intended to allow consideration of not only the physical infrastructure used for floodplain harvesting, but also the opportunity irrigators may have to access floodplain flows depending on their location and climatic variability. The decisions made by irrigators in relation to other sources of supply and cropping will also be considered.

The capability assessment will require the applicants to have a certified on-farm water infrastructure plan and to complete an irrigator behaviour questionnaire. The on-farm water infrastructure plan will identify and detail all works capable of undertaking floodplain harvesting. The irrigation behaviour questionnaire may request such information as crop history, crop water use, on-farm water balance, climatic information, stored volumes and other information relating to the irrigation activity's on-farm water balance.

The capability assessment has two main functions. First, it will inform any required environmental assessment for the work approval. Second, the capability assessment will inform the disaggregation of the total floodplain harvesting long-term average annual extraction limit volume to individual licences.

In addition to these two functions, information gathered through the capability assessment process may be used to refine the floodplain harvesting estimates produced by river basin modelling.

Environmental assessments

In order to grant a water supply work approval or a flood work approval under the *Water Management Act 2000*, or grant a controlled work approval under the *Water Act 1912*, an assessment of the environmental impacts of the work must be carried out. Works proposed to be authorised for floodplain harvesting will undergo this environmental assessment, except for works which are already covered by an approval issued under Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000* and are operated within the terms of the original approval. This means that no additional assessment will be required for works that are covered by an approval issued under Part 2 or Part 8 of the *Water Act 1912* or the *Water Management Act 2000*, so long as the works will be operated within the terms of the approval.

The assessment required in order to grant an approval for a given work or set of works will depend on the extent to which existing approvals are sufficient to authorise the works for floodplain harvesting. Works with a valid *Water Act 1912* or *Water Management Act 2000* approval which will be operated for floodplain harvesting purposes in ways that do not fall within the terms of the existing approval will require assessment of those operations that are not covered by the existing approval. Any works that do not have a valid *Water Act 1912* or *Water Management Act 2000* approval will be assessed according to normal procedure.

Works will be assessed in relation to considerations including, but not limited to, the potential impact of floodplain extractions and changed flood flow distribution on threatened species, fish passage and breeding, groundwater connectivity, floodplain connectivity, wetlands and flood-dependent ecosystems, and other water users. Environmental assessments will consider the contribution of all existing works, whether authorised or not authorised, to the cumulative impact of water management activities. Environmental assessments will also draw upon information relating to floodplain flow paths and environmental assets contained in rural floodplain management plans, where available.

In cases where existing approvals or applications do not include information sufficient to enable assessment of environmental impacts, the Office may request additional information.

On-farm monitoring strategy

Applicants for work approvals will need to propose a monitoring strategy demonstrating how the volume of water taken by the works will be measured under any floodplain harvesting licence issued.

Methods may include a combination of:

- an on-farm water balance;
- calibrated storage gauges;
- metered pumps used for taking floodplain water; and
- other cost-effective, fit-for-purpose methods.

When issuing a work approval the Office of Water may impose conditions requiring measurement by the methods nominated by the applicant or such methods as the Office deems appropriate.

Incorporating floodplain harvesting in water sharing plans

The fourth stage in implementing the policy is to take the actions necessary to incorporate floodplain harvesting in water sharing plans. This consists of setting the floodplain harvesting long-term average annual extraction limit and making other amendments to water sharing plans where necessary.

Setting the floodplain harvesting long-term average annual extraction limit

In regulated river water sources, separate long-term average annual extraction limits (LTAAELs) will be set for floodplain harvesting and for extractions from the regulated river. In regulated river water sources with existing plans, the total of these two separate LTAAELs will equal the existing LTAAEL. Unregulated river water sources will generally not have separate LTAAELs, as the total volume of water available for floodplain harvesting is already accounted for within the existing access licence share components and long-term average annual extraction limits.

LTAAELs in regulated river water sources

The LTAAEL established in a water sharing plan governs the bulk shares of water available to licence holders. For regulated rivers in the Murray-Darling Basin that have a commenced water sharing plan, the LTAAEL is the lesser of extractions that would occur:

- with the irrigation development, access licence share components and access rules specified in the Plan; or
- under the Murray-Darling Basin Ministerial Council Cap baseline conditions (the Cap). The Cap is based on the long-term average extractions that could occur with the combination of the level of development at 1993/94 and the management rules that were in place at that time.²

The LTAAELs for the regulated rivers are determined using computer models which simulate river basin behaviour based on more than one hundred years of climate data, the amount of irrigation development in the water source and the applicable plan rules. The model can be used to estimate long-term average as well as peak annual extractions under the conditions prescribed in the water sharing plan and the Cap.

² In the Border Rivers Regulated River Water Source, the LTAAEL will be defined by a different benchmark due to the commencement of operation of Pindari Dam post-1994, as specified under the Murray-Darling Basin Cap Agreement.

Setting the LTAAEL in commenced regulated river plans

For commenced regulated river water sharing plans, the existing LTAAEL will be split into separate limits for floodplain harvesting extractions and for the other extractions from the water source. The LTAAELs for commenced regulated river plans already include an estimate of floodplain harvesting extractions under the baseline conditions that were specified to set the original LTAAEL. That estimate will be updated, based on the additional information regarding floodplain harvesting gained through capability assessments. For example, if baseline conditions specified in the water sharing plan for the original LTAAEL referred to the water storages and water use development that existed in 1999/2000, the separate LTAAEL for floodplain harvesting would be set using estimates of floodplain harvesting extractions under the conditions for 1999/2000.

In updating modelling estimates for floodplain harvesting, the Office of Water will establish a committee with irrigation stakeholders from each valley to consult on ways to maximise the robustness of the modelling and ensure that parameters relating to farm operations accurately reflect actual behaviour to the greatest degree feasible.

Updating estimates for floodplain harvesting may result in the allowable extractions attributed to the floodplain harvesting component being more than the floodplain harvesting component calculated under the Cap. However, it is important to note that total extractions, including, regulated river, supplementary water and floodplain harvesting extractions, will be less than or equal to the Cap.

Setting separate LTAAELs for floodplain harvesting extractions and other extractions recognises and maintains the relationship between regulated, supplementary, floodplain harvesting and other extractions that existed at the commencement of the regulated river water sharing plans.

Setting the LTAAEL in new regulated river plans

For regulated river water sources that do not yet have a water sharing plan, floodplain extractions associated with existing works constructed on or before the announced cut-off date of 3 July 2008 will be used to define the upper limit of floodplain harvesting. However, the final LTAAEL for floodplain harvesting in new plans is a matter for determination through the normal water sharing plan development process.

For river systems within the Murray-Darling Basin, total LTAAELs for any new plan will need to be at or below Cap limits.

Managing to the LTAAEL in regulated river water sources

The floodplain harvesting licence share components, the LTAAEL and the water account rules in water sharing plans combine to ensure that over the long term floodplain harvesting extractions cannot exceed the floodplain harvesting LTAAEL. Rules in the water sharing plan also ensure that other extractions cannot exceed the separate LTAAEL for non-floodplain harvesting extractions, so that overall extractions cannot exceed the sum of the separate LTAAELs.

Future floodplain harvesting allocations could be affected if there is a better estimate for the floodplain harvesting LTAAEL. If a more accurate model is developed or better or additional data is available, the floodplain harvesting LTAAEL will be recalculated to reflect the improvements in model accuracy or available information. Such improved data would include better information on the floodplain harvesting infrastructure and irrigation behaviour when plan rules and conditions were established or climatic data; however, alterations to works or changes to access behaviour that occurred after the plan was made would not be included in model updates. If the LTAAEL is recalculated due to better information or improvements in model accuracy, then future water allocations for floodplain harvesting access licences will be adjusted accordingly.

LTAAELs in unregulated river water sources

In unregulated river water sources (excluding the Barwon-Darling), the total volume of water available for floodplain harvesting is in most cases already accounted for within the existing access licence share components and the LTAAELs. The reason for this is that when the *Water Act 1912* licences were volumetrically converted, the process was based on area planted and water needed to meet associated crop water requirements to work out a water demand. In order to validate associated crop water requirements, water users were also requested to provide information, if available, on how much water was extracted. This means that in most cases the issued access licence share components and unregulated river LTAAELs effectively include floodplain harvesting extractions.

However, there may be instances in unregulated river water sources where existing floodplain harvesting works meet the eligibility criteria for assessment under this policy, but the floodplain harvesting extractions associated with the works are not included within issued share components and unregulated river LTAAELs. Where this is the case, other than in the Barwon Darling, the LTAAEL will be recalculated to include an amount that equals the annual extraction averaged over the period from 1 July 1993 to 30 June 1999 by floodplain harvesting activities that were not included in unregulated river access licence share components during the volumetric conversion process.

While new licences may not be issued for floodplain harvesting in unregulated systems other than the Barwon-Darling, assessments for work approvals will still be required.

In the Barwon–Darling floodplain harvesting is not typically already accounted for and as a result the Barwon-Darling will be treated like a regulated river in terms of its LTAAEL. Initially the LTAAEL will be a single LTAAEL that includes an estimate of floodplain harvesting extractions, and the water sharing plan will include a provision allowing for the plan to be amended after commencement to provide for floodplain harvesting.

Amending water sharing plans

In order to bring floodplain harvesting access licences fully within the licensing, approvals and planning framework of the *Water Management Act 2000*, the relevant water sharing plan must make provision for floodplain harvesting.

For water sharing plans for regulated river water sources that have already commenced, a plan amendment will be required to bring the separate LTAAELs for floodplain harvesting and other regulated river extractions into effect. Existing water sharing plans currently include clauses expressly providing for amendments related to floodplain harvesting. New plans will where appropriate include separate LTAAELs for floodplain harvesting and other regulated river extractions from the outset.

In developing the floodplain harvesting provisions for water sharing plans, consideration will be given to the ecological benefits of flooding in the area, with particular regard to wetlands and other floodplain ecosystems. Plan amendments, or floodplain harvesting provisions in new plans, may include clauses establishing environmental water rules relating to floodplain harvesting, including event management rules such as commence-to-pump rules. For existing plans, such rules will be considered to the extent that the outcomes of the overall long-term extraction limit specified in the Plan are not affected.

Plan amendments will also be necessary to change the definition of water sources, incorporate the water account initialisation and carryover rules specific to floodplain harvesting access licences, and provide for the application of mandatory conditions to the floodplain harvesting access licences that are issued.

Amendments may also be required for water sharing plans for unregulated rivers.

Issuing floodplain harvesting access licences

The Office will notify licence holders of the terms and conditions of floodplain harvesting access licences that are to be issued. Licences will be issued in association with all works that are determined to be eligible works and were constructed and capable of floodplain harvesting as of 3 July 2008. Floodplain harvesting access licences will also be issued in association with works that had not yet been constructed as of 3 July 2008, so long as those works are determined to be eligible works *and* subsequently are issued a water supply work approval to conduct floodplain harvesting. Floodplain harvesting access licences will not be issued in association with any work that was determined to be ineligible for assessment.

Share components

The separate floodplain harvesting LTAAEL in regulated river water sharing plans (and in the Barwon-Darling) will be disaggregated into share components for individual floodplain harvesting access licences, to be determined as follows:

1. For any works that were previously covered by a *Water Act 1912* Part 2 licence that specified a volume, the share component will be that volume specified by the licence as per the transitional provisions of Schedule 10 of the *Water Management Act 2000*.
2. For any works that were previously covered by a *Water Act 1912* Part 2 licence that did not specify a volume, a volume will be assigned to the *Water Act 1912* Part 2 licence equal to a proportionate share of the LTAAEL (less the sum of share components arising under item 1 above), based on the capability of the works as of 3 July 2008. The *Water Act 1912* licence will then be converted as per the transitional provisions of Schedule 10 of the *Water Management Act 2000*.
3. For existing eligible works that were not previously covered by a *Water Act 1912* Part 2 licence, the share component will be a proportionate share of the LTAAEL (less the sum of share components arising under item 1 above), based on the capability of the works as of 3 July 2008.
4. For eligible works that have not yet been constructed, the share component will be a proportionate share of the LTAAEL (less the sum of share components arising under item 1 above), based on the capability of the works as approved.

If a particular farm configuration includes works from more than one of the categories above, the share component will be based on the capability of those works operating as a whole. For example, if a farm included existing works covered by a Part 2 licence that specified a volume and works that were not covered by a licence, the share component would be calculated by adding the Part 2 licence volume and a proportionate share of the LTAAEL based on the additional capability the unlicensed works added to the configuration as a whole.

The determination of share components will not be based on any history-of-use information. History-of-use information is considered to have several disadvantages for disaggregating the total floodplain harvesting volume, including:

- the lack of verifiable records for all existing users and therefore the potential for inequitable sharing of the available volume;
- the inadequate coverage of existing measuring and monitoring systems;
- the high climatic variability associated with floodplain harvesting events; and
- the recent prolonged drought, which has meant that opportunities for floodplain harvesting activities have been limited, distorting recent history-of-use patterns.

In some cases, individual share components will not equal the capability of the works in place. Individuals whose existing works have the capability to harvest more than the maximum account limit for their new floodplain harvesting access licence may be required to modify their works or their extraction behaviour (e.g. pumping practices). Floodplain harvesting access licence holders will not be authorised to take more water than is credited to the respective water allocation account for the access licence at the time water is taken.

It is also possible that the sum of individual share components may not equal the LTAAEL for floodplain harvesting in regulated river water sources if the LTAAEL is recalculated to reflect improvements in model accuracy or available information. In recognition of this possibility, the amendments to existing plans to provide for floodplain harvesting will include provisions to allow the share components or available water determinations for floodplain harvesting access licences to be adjusted. It should be noted that adjustments may be in either direction; that is, the LTAAEL and share components may be increased if improvements in model accuracy or available information indicate the model has underestimated floodplain harvesting extractions, or decreased if the model has overestimated them.

The process for determining share components for floodplain harvesting access licences in unregulated river water sources (except for the Barwon-Darling) will be different from that used in regulated water sources.

Where existing floodplain harvesting works in unregulated river water sources meet the eligibility criteria for assessment under this Policy and it can be demonstrated that the area irrigated using water taken by those works is in addition to the area assessed during the volumetric conversion process, a new access licence may be issued. The share component of the issued access licence will be determined using the volumetric conversion process that was used for unregulated river access licences in the same water source.

In both regulated and unregulated water sources where floodplain harvesting access licences are issued, the Office of Water will make preliminary determinations of individual share components for all applications within that water source and notify the applicants. If an applicant disagrees with a preliminary determination of their individual share component, the applicant may make a submission to have the preliminary determination reviewed. The review process is described in more detail later in this policy.

After all submissions have been reviewed, the Office will make a final determination of individual share components and licences will be issued.

Water account initialisation and carryover

Floodplain harvesting is highly variable in nature. Share components and account rules need to allow for this variability. The most effective way to allow for this is to issue the total share components such that they equal the floodplain harvesting LTAAEL, with appropriate carryover and account limit provisions to allow for the inherent annual variability.

At the point that floodplain harvesting licences are issued the Office will credit the water account of individual licences with an amount equal to 500 percent of the licensed individual share component. Thereafter, water accounts for individual access licences will be credited with an allocation equal to 100 percent of the licensed share component at the commencement of each water year. For the first five years after initialisation of licences, there will be a maximum account limit of 500 percent. This limit will apply only for the first five years after initialisation.

Floodplain harvesting licences will be able to carry over any unused water allocations from one water year to the next. However, total use in any one water year cannot exceed an amount equal to 500 percent of the individual share component (plus any water traded into the account). In addition, total use over any 5-year sequence may be limited if the Murray-Darling Basin Ministerial Council considers that there has been a breach of Schedule E of the Murray-Darling

Basin Agreement in Schedule 1 of the *Water Act 2007* (Cth) for the valley, and the Minister has agreed to address this breach

Tenure

Currently, under the *Water Management Act 2000*, access licences continue until they are cancelled. Supplementary water access licences must be cancelled if the water sharing plan ceases to make provision for the extraction of water under such an access licence. Specific purpose access licences must be cancelled if the purpose for the access licence was granted no longer exists. All other access licence types may only be cancelled if a breach of the Act has occurred. As they have no end date or cancellation trigger they are referred to as 'perpetual.'

'Floodplain harvesting access licences' are created as a separate category by clause 8 of the *Water Management (General) Regulation 2011*. They are not a specific purpose or supplementary licence and are therefore perpetual.

Compensation

The *Water Management Act 2000* makes compensation payable in certain circumstances consistent with the National Water Initiative. During the life of the first management plan, licence holders (other than supplementary access licence holders), including holders of floodplain harvesting access licences, whose water allocations are reduced by changes to the bulk access regime have the right to lodge a claim for compensation if the plan is amended and the amendment is not provided for in the plan, but it is at the discretion of the Minister whether or not compensation should be paid.

After the first water sharing plan, the holders of specified access licences have a right to be paid compensation in certain circumstances. Currently this does not include floodplain harvesting access licences. It is intended to amend the *Water Management (General) Regulation 2011* so that the holder of a floodplain harvesting access licence would have a right to compensation under the *Water Management Act 2000* if their water allocations were reduced by changes to the bulk access regime after the first water sharing plan.

Trading arrangements

Trading of floodplain harvesting access licences (previously known as permanent trading) will be permitted subject to the development of an appropriate trading framework that defines the types of trades permitted and any relevant trading restrictions.

Prior to any trade of floodplain harvesting access licences being approved, the current owner of the floodplain harvesting access licence (the vendor) will need to demonstrate how they will ensure that their works will no longer undertake the floodplain harvesting associated with the share component to be sold. The purchaser will need to have works approved for floodplain harvesting before taking water under the purchased share component.

The episodic nature of floodplain harvesting events and the unique conditions that exist on-farm mean that trading of water allocations for floodplain harvesting access licences is potentially problematic. The challenge such trades presents is ensuring that floodplain water is only taken once, that is, by the person who has bought the water. As such these trades will be considered as soon as appropriate procedures to ensure compliance and appropriate measuring, monitoring, administrative and accounting processes can be put in place to facilitate such trades.

Review process

In order to facilitate the orderly and equitable processing of ROIs in work approvals and floodplain harvesting access licences, the Office will establish a review process to consider submissions on preliminary determinations on selected issues. Preliminary determinations upon which submissions can be made are limited to:

- determinations about whether the work is located on a property where all or part of that property lies within the designated floodplain;
- cases in which existing floodplain designations do not adequately incorporate existing floodplain harvesting works;
- determinations about whether the floodplain works are eligible for assessment under this policy; and
- determinations about the calculation of the share component of a floodplain harvesting access licence.

At stages of implementation where a review process is to take place, the Office will notify all persons who submitted an ROI of its relevant preliminary determinations and invite requests for review.

The review process will be similar to the anomalies committees that were used in the volumetric conversion process for licences in unregulated rivers carried out by the Office in 2000. It is intended that proceedings will be informal, with an opportunity to make both written and oral submissions. The Office will inform persons requesting review of the details regarding the proceedings, such as the time for review and any requirements regarding submissions, at the time it provides notification of preliminary determinations. Submissions may be made only by persons in relation to their own ROIs.

Replacement and refurbishment of works

The policy will permit the replacement and refurbishment of existing floodplain harvesting works so long as there is no net increase in floodplain harvesting and no increased adverse environmental impact from such works. This allows water users to improve their irrigation efficiencies and on-farm water management.

The replacement or refurbishment of existing floodplain harvesting works may require a new or amended approval under the *Water Management Act 2000*, which must be obtained prior to construction. If a new or amended approval is required, an environmental assessment will be undertaken in accordance with the normal assessment procedures.