

## Floodplain harvesting in regulated rivers

### Accounting for floodplain harvesting in NSW's water sharing plans

Water sharing plans (WSPs) made under the *Water Management Act 2000* set the level of overall extractions within water sources in NSW. Floodplain harvesting extractions are already included within the extraction limits of the WSPs.

In regulated river water sources, the plan limit is generally defined as the lesser of the:

1. Murray–Darling Basin Ministerial Council Cap (the cap) baseline conditions: extraction levels under development conditions, water management rules and irrigator behaviour as they were in 1993–94; or
2. long-term average annual extractions under development conditions and irrigator behaviour at a specified date (1999–2000 for most plans) and water management rules, as specified in the water sharing plan (from July 2004 onwards for regulated river plans).

These two scenarios provide snapshots in time for infrastructure and behaviour (1993–94 and 1999–2000), but with the latter also adjusted for the introduction of the July 2004 management rules. For most regulated river plans, the lesser of these represents the 'plan limit'.

In all cases to date, scenario 2 has been shown to produce a lower number than scenario 1. That is, the rules in the WSPs facilitate lower average extractions than the cap, even with the infrastructure growth that may have occurred since 1993–94.

### Accounting for floodplain harvesting in the Murray–Darling Basin Cap

The cap was agreed by the Murray–Darling Basin Ministerial Council. As a signatory to the Murray–Darling Basin Agreement, NSW is required to limit surface water extractions in the Murray–Darling Basin to within the cap.

Floodplain harvesting extractions are included in both the plan limit of NSW WSPs and the cap.

The Murray–Darling Basin Authority (MDBA) is responsible for auditing and reporting compliance with the cap, and NSW plays an implementation role through regulating extractions through its WSPs.

For NSW, the cap is defined as the volume of water that would have been diverted under 1993–94 levels of development (although this differs for the Border Rivers, with an allowance for the enlargement of Pindari Dam, which occurred after 1993–94). The cap applies to all surface water extractions within a valley and includes extractions from regulated rivers, unregulated rivers and floodplain harvesting.

### Accounting for floodplain harvesting in the Murray–Darling Basin Plan

Under the Murray–Darling Basin Plan, the cap will be replaced by sustainable diversion limits (SDLs) in 2019. These SDLs will include floodplain harvesting extractions.

SDLs are established with reference to baseline diversion limits (BDLs). These limits reflect the amount of surface water currently being taken from the system for consumption. The SDLs under the Basin Plan are defined as a BDL minus a reduction volume to be returned to the environment. For regulated river extractions and associated floodplain harvesting, the BDL is the same as the plan limit in the WSP.

## The relationship between limits on floodplain harvesting in water sharing plans, the cap and the Basin Plan

Technically, the limits on extraction in NSW's water sharing plans, the cap and the Basin Plan are distinct, and each of the limits is defined slightly differently.

The plan limit in NSW WSPs is the most relevant for managing floodplain harvesting extractions at this time. While the MDBA audits and reports compliance with the cap, it is NSW that implements the cap by limiting extractions through its WSPs. Similarly, NSW will implement the SDL by limiting extractions through WSPs.

## How the WSP limit is calculated

The NSW Department of Industry uses a river basin model (IQQM) to calculate extraction limits.

To calculate the scenario 2 baseline extractions, the department sets the IQQM to have the development conditions and irrigator behaviours that were occurring in 1999–2000, inputting the water management rules of the relevant WSPs.

The IQQM is then run for the entire period of available climatic record, approximately 120 years, with the long-term average annual extractions generated by the model.

The department does the same exercise for the scenario 1, that is the cap baseline conditions (using 1993–94 development conditions, irrigator behaviour and water management rules as inputs) to arrive at a long-term average annual extraction number for the cap.

The lower of the two numbers is the long-term average annual extraction limit under a WSP, known as the 'plan limit'.

At the end of every water year, climate information from that water year is added to the period of record and the model is re-run to incorporate the new information and provide an updated calculation of the plan limit.

Just as additional data can influence plan limits, so too can additional information on development conditions and irrigator behaviour in 1993–94 and 1999–2000.

Upgrades to the modelling software and improved model configuration can also result in an updated calculation of the plan limit.

## How floodplain harvesting licences will be added to the plan limit and cap

As floodplain harvesting is already included in the plan limit and cap, there will be no need to 'add' newly issued floodplain harvesting licences to the plan limit or cap.

However, the department will use the information collected as part of the process of issuing floodplain harvesting licences to update its IQQM modelling.

Some of the new information will be supplied by irrigators through the process of registering interest for a floodplain harvesting licence. This will be supplemented by information the department collects during site visits and will be verified by remote sensing, where relevant.

This new information will enable a better understanding of development conditions, irrigator behaviour and farm configurations in both 1993–94 and 1999–2000. This new information will be built into the model to produce a more robust calculation of the floodplain harvesting component of the total extractions and therefore the overall extractions for the cap and plan limits.

## How implementing licences will affect current use

Although the NSW Floodplain Harvesting Policy (the policy) provides that works that were granted the relevant approvals or subject to a pending approval application as of 3 July 2008 are eligible for assessment under the policy, the plan limit is based on an earlier level of development, most commonly 1999–2000.

If the level of development at 3 July 2008 results in more water being accessible than the plan limit permits, then the proposed floodplain harvesting entitlements and account management rules will need to be designed to return these extractions back to the plan limit. In this case, individuals can expect that the implementation of the framework will impact on the volume of water that could be taken under the development that existed on 3 July 2008.

Under the policy, works with an approval application lodged after 3 July 2008 are not eligible for consideration for a floodplain harvesting access licence. This protects those floodplain harvesting water users who developed their farms legitimately to floodplain harvest up until that point.

More details on the impacts of implementing floodplain harvesting on current use will be made available with the release of draft floodplain harvesting entitlements on a valley-by-valley basis.

## More information

Visit [industry.nsw.gov.au/water](http://industry.nsw.gov.au/water) for more information.

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