



No. 3 Floodplain Harvesting

What is floodplain harvesting?

Floodplain harvesting is the collection, extraction or impoundment of water flowing across floodplains. The floodplain flows can originate from local runoff that has not yet entered the main channel of a river, or from water that has overflowed from the main channel of a stream during a flood. For the purposes of this policy the floodplain is defined as extending to the 1 in 100 year flood line.

Harvesting can generally be put into one of three categories:

1. Diversion or capture of floodplain flows using purpose built structures or extraction works to divert water into storages, supply channels or fields or to retain flows.
2. Capture of floodplain flows originating from outside of irrigated areas using works built for purposes other than floodplain harvesting. Examples are:
 - levees and supply works such as off river storages constructed in billabongs or depressions that fill from floodplain flows
 - below ground level water channels from which the water is pumped into on farm storages.
3. Opportunistic diversions from floodplains, depressions or wetlands using temporary pumps or other means.

Capture of rainfall or runoff from farm irrigation fields, via tailwater systems or other means, is not floodplain harvesting.

What are the issues?

The 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, wetland

and floodplain needs and the water supply entitlements of other users.

As well, floodplain harvesting can seriously affect the connectivity between the local floodplain, wetlands and the river, through the loss of flow volume and redirection of water flows.

The *Water Act 1912* provided powers to license floodplain harvesting. However this was never applied as there was generally no requirement to restrict total overall water extractions or off-allocation diversions. Harvested floodplain water has been treated as a freely available bonus to a farmer's licensed entitlement.

This situation has now changed. The Murray-Darling Basin cap applies to all water diverted from inland NSW catchments and rivers. Licensed and off-allocation access has been subject to increasing restrictions. Embargoes on water licences are also in place on many areas on the coast.

Floodplain harvesting works and water extractions also clearly fall into those activities that the *Water Management Act 2000* requires to be only undertaken by way of a licence. The Act also requires such licensing to consider the ecological functioning of floodplains.

Floodplain harvesting can no longer be left outside of the State's water management and compliance system or as a source of increase in further water diversions. Given this, it is the Government's intention that floodplain harvesting works and taking of water from floodplains be licensed and managed. It will take a number of years to complete the process. However, the water sharing plans must signal the basic principles that will govern the process.

Approach to floodplain harvesting

Floodplain harvesting will not be a component of individual water sharing plans being produced for the regulated and unregulated rivers. During flood times water originating in one river system may flow across floodplains and along “flood runners” into adjacent river systems. It is therefore often not possible to assign an area of floodplain to a particular river.

Instead, management of floodplain harvesting will occur on a state-wide basis, according to the six principles set out below.

There are many thousands of existing floodplain works which will require licensing and this will be done over the next couple of years. The licensing process will include proper environmental impact assessments.

A separate category of licence will be established.

Principle 1

All existing floodplain harvesting works and floodplain harvesting extractions will be licensed.

While all surface and groundwater licences now (or will shortly) specify volume entitlements or annual limits to water, it is not possible to do this for floodplain harvesting licences at this stage. This is because the pattern of use is highly episodic and site and infrastructure specific, and current data on structures and use is minimal.

The Department of Land and Water Conservation will licence existing structures and specify monitoring of use – including metering of pumps – as a licence condition where possible. This may not be possible initially in cases where a tailwater system is also picking up floodplain water as they are difficult to separate, or where overland flow is being captured by a billabong for which we do not have any information on its capacity. Options for application of volumetric conditions will be developed and implemented where appropriate within the first five years of the initial water sharing plans.

Principle 2

Licensing will focus initially on controlling the structures, but with movement towards specifying volume limits and flow related access conditions, including metering of pumps.

All new floodplain harvesting works are required by law to be licensed. However, as any new works

would result in a growth in diversion, which would threaten river health and/or the water entitlements of others, such works would have to be offset by a reduction in other forms of water diversion.

Principle 3

No new works or expanded floodplain harvesting activities in the Murray-Darling Basin that will result in the diversion of additional water will be authorised.

Because cap is based on the use of water with development as it was in 1994, NSW considers that the water use that would result from use of the floodplain infrastructure in place in 1994, is part of the cap in each system. It is likely that there has been some growth in floodplain harvesting works and extractions since then.

However, it is expected that the licensing process will result in some modification of existing works. This may be adequate to offset any post 1994 development. If not, restrictions on the use of the licensed works will have to be applied to return diversions to cap levels. Such restrictions could include restrictions on pumping times or a requirement to modify the work to allow a proportion of flows to be bypassed.

By preventing the construction or enlargement of new works, the opportunity for any further growth in floodplain harvesting diversions will be minimised.

Principle 4

Floodplain diversions associated with works in place in the Murray-Darling Basin prior to the end of the 1994 irrigation season will be considered as within the NSW cap.

Principle 5

Once licensing is completed, an assessment of long-term use resulting from authorised structures against that from structures which existed in 1994 will be carried out and appropriate steps taken to keep harvesting to cap levels.

Trading of floodplain harvesting rights will not be permitted because the frequency and volume of use is site and infrastructure specific, and volume management will take some time to implement.

Principle 6

Floodplain harvesting rights will not be tradeable.

Plan Requirements

To provide a link between the water sharing plans and the floodplain harvesting policy, the following model provisions should be incorporated into regulated and unregulated river system water sharing plans.

- 1. Harvesting of water from the floodplains of rivers which are included in this Plan's water sources is not subject to the provisions of this plan and has not been included in the diversion limit that applies to this plan.*
- 2. This plan has, however, been developed on the understanding that the harvesting of water throughout the state will be managed on the basis of the principles set out in the policy advice. (The 6 principles should be listed).*