

## Monitoring and auditing approach

Floodplain harvesting extraction is unlicensed and unmonitored in NSW. This is due to a high degree of variability and the links between floodplain take and the operation of other irrigation sources and infrastructure.

With the release of floodplain harvesting water access licenses in a valley, compliance measures need to be established to ensure a fair system of floodplain access and reliable water supply for downstream users.

To support future water security, the NSW Government requires floodplain take to be measured and reported. The capacity to monitor floodplain diversions is one of the significant advantages of bringing these diversions into the licensing framework.

## The best means of monitoring floodplain harvesting

The Healthy Floodplains Project has conducted extensive research and consultation into monitoring the take of floodplain harvesting in the north western valleys. It is clear from this work that the best means of monitoring floodplain harvesting that is fair, economically viable, efficient and effective is to measure changes in volumes of water in on-farm water storages.

The monitoring will be conducted through a three-year staged approach.

- Once Floodplain Harvesting water access licences are issued, water users will be required to measure changes to storage volumes through a minimum standard of gauge boards matched to calibrated storage volume curves. If more sophisticated systems are installed, these may be accepted, provided they meet accuracy requirements.
- In the first two years, the gauge board strategy will be continually monitored and alternative monitoring systems investigated, if appropriate.
- If necessary, a revised minimum standard for monitoring will be implemented after three years.

This staged approach acknowledges the challenges to effective monitoring in the floodplain harvesting context but aims to improve rigour over time. The staged approach will enable consideration and transition to new and improved technologies.

Monitoring, record-keeping and reporting will be the responsibility of each individual user under a self-reporting system.

Compliance and enforcement functions will be the responsibility of the Natural Resources Access Regulator (NRAR). Billing of floodplain harvested water will be the responsibility of WaterNSW.

## Measuring storage level change

### Measurement devices

All storages used to store floodplain take must be monitored using a measurement device. This measures the change in water level (storage depth) from harvesting floodplain take. Gauge boards, the minimum measurement standard, require the licence holder to manually read the gauge when water movements occur in and out of storage.

Licence holders may prefer an automated monitoring system, but a back-up system of gauge boards that can be manually read during system outages will be required.

### Ownership and maintenance of equipment

All monitoring systems and data produced by the monitoring systems will be owned by the licence holder. The licence holder will be responsible for all repairs, maintenance and replacement of the monitoring system. The licence holder will be able to use the data from the monitoring system to complement their farm management.

The initial purchase and installation costs of the monitoring system (gauge boards only) will be met by the Healthy Floodplains Project.

## Storage surveys and stage volume curves

A storage survey will be required in order to convert the measured water levels into volume readings.

Storage volume surveys will be supplied by the Healthy Floodplains Project as part of the roll-out of gauge boards.

Any change to the storage configuration (for example, an increase in storage height, storage enlargement or sectioning into cells, undertaken in accordance with a respective amended Work Approval) will require a new storage survey and development of a revised depth/volume curve.

## Data recording and reporting

If the minimum standard gauge board is used to measure storage depth, the licence holder will be required to collect and record readings from the gauge. Recordings must include the date of the record, reading and volumetric conversion via the storage volume curve to a storage volume. Gauge height, start and end dates and storage identification will need to be recorded. There may also be minimum timeframes for taking readings to improve the reliability and consistency of recordings.

Importantly, the licence holder will be required to maintain a reporting system, keep accurate records of measurements taken and methods used. Records can be manually captured and stored in a logbook or similar. Records must be kept legible and secure for at least 10 years. They must also be available for review and audited if required.

Licence holders may also be permitted to capture records through automated processes and store them electronically. Automated processes may include data loggers connected to automated measurement devices.

After each floodplain harvesting event, all licence holders will be required to report the total floodplain take, by entering their reportable take into the Water Accounting System (iWAS). An annual report will also be required if no floodplain harvesting event has occurred in the previous water year.

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