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## Fact Sheet on Northern Basin Embargoes and Floodplain Harvesting

This information is provided following concerns raised due to misinformation regarding northern embargoes and floodplain harvesting.

NSWIC supports the need for a first flush to provide flow for critical human needs. We also are on record requesting greater transparency around the decision to utilise, amend and remove temporary pumping restrictions in NSW. This process must be undertaken with a clear methodology, based on fact and science and communicated communities both up and downstream.

A clear process is required to give confidence to downstream communities regarding flow assessment and priority of access, and to enable farmers to understand the rules under which their businesses needs to operate when a drought does break.

This issue is not new for us, we are on record asking the Department, Ministers office and the relevant local members throughout 2019 to have this process improved and undertaken with public consultation. For example, a copy of the letter NSWIC sent to Minister Blair in 2018 is available - [Link here](#). The NSWIC Policy on Floodplain Harvesting (2019) is available on the NSWIC website.

### **Who is responsible for making temporary restriction orders:**

The Department of Planning, Industry and Environment, water division has the delegated authority to make determinations of temporary restrictions. A panel of departmental staff from a range of agencies make recommendation and decisions based on the rationale provided in DPIE fact sheet. [Link here](#).

### **Who implements a temporary restriction order:**

WaterNSW is both the river operator in the Northern Basin and the customer contact.

Water NSW undertake the hydrological assessments of river flows both actual and using modelling predictions. They are providing regular updates on Barwon River operations via <https://www.waternsw.com.au/supply/regional-nsw/operations-updates>.

### **When were temporary restrictions put in place in the Northern Basin?**

- 20 December 2019 – 5 January 2020 – a pre-emptive temporary restrictions was put in place within the Northern Murray Darling Basin for unregulated and some regulated water users. [Link here](#).
- 20 January 2020 – 17 February 2020 (amended to 28 February 2020) – Temporary restrictions on Northern Murray Darling Basin for unregulated and some regulated water users.
- 7 February 2020 – 28 February 2020 – (Friday at 4.04pm) Temporary restriction on Northern Murray Darling Basin Floodplain Harvesting order was placed on floodplain

harvesting, other than rainfall collected in tailwater return systems and passive take that could not reasonably be prevented. The temporary restriction on floodplain harvesting was the first-time this type of restriction had been made by NSW.

### **Who has the first priority and how does the department assess when triggers are met?**

Rivers are managed differently during drought, to achieve critical needs.

DPIEW provided their rationale for critical water needs and state in this [Fact Sheet](#).

### **What is floodplain harvesting?**

Floodplain harvesting is the capture and use of over land flow water flowing across a floodplain during a flood. Irrigation farmers everywhere in NSW (north and south) capture over land flow water as part of their works approval requirements to capture rainfall on farm to mitigate environmental impacts. Farms are specifically designed for this purpose.

Irrigation farmers on floodplains have flood protection works designed to exclude overland flow to protect their crops, homes and farm infrastructure from damage.

### **Does it happen regularly?**

No. Overland flows generally occur only when there is major flooding. If there's no flooding, there's no floodwater to capture. The localised flooding in the Namoi and Lower Gwydir Valleys this last month has been the first event since 2011 and 2012 for these regions.

### **What are flood protection works and are they licenced?**

Flood protection works exist on many farms both dryland and irrigated and within communities everywhere on the floodplains. They can include levies, contour banks, dams and roads and are designed to protect infrastructure such as houses and buildings, roads as well as irrigation fields, pivots or laterals and water delivery systems. For example, a town levy such as in Wee Waa, is a flood protection work around that town community.

Not all of these works are required to be licenced if they were built to specific conditions at the time of construction, like heights. This was detailed in local floodplain management plans.

Flood protection works such as levies and banks were licenced under the *Water Act 1912 NSW*. The licencing rules have undergone a number of changes over time, the most recent being the transition to the *Water Management Act 2000 NSW* and valley-wide floodplain management plans as part of the NSW Healthy Floodplains project. Licences under previous legislation is being updated to match the requirements for the new legislation. This process is similar to how works approvals under the Water Act were transitioned.

All farms on the floodplain in the Northern Basin have been assessed by on-farm visits to develop works infrastructure plans to document and finalise the transition of old licenced works into the new framework. NRAR are also undertaking audits of these works valley-wide. The southern NSW valleys have yet to have their audits undertaken.

This has shown there are a number of issues around policy implementation overtime and some works will require modification or removal to be consistent with the new legislation or may not be eligible to be used for floodplain harvesting. These issues are not isolated to only irrigation farms but also occur on dryland farms and grazing country all of whom will need to comply with the new rules.

### **Why are there works on the floodplain?**

There is significant amount of development on the floodplains right across NSW. Farms are located on floodplains because of their fertile soils. We have populated towns on and near floodplains and required infrastructure such as rail and roads, which all impact floodplain flows.

### **Why is Floodplain Harvesting important to the Northern Basin?**

Overland flows are an important source of water for some farmers, particularly in the Northern Murray–Darling Basin areas of NSW and parts of Queensland because of the ephemeral and episodic nature of river flows which is not all captured by headwater storages. The Northern Basin has 4,969 GL of headwater storage, this is a rain fed ephemeral system. By comparison the Southern Basin has 16,328 GL volume of headwater storage and a significant portion is snow melt - that is nearly 3.23 times more head water storage in the southern basin.

### **Why do northern farmers have on-farm water storages?**

The location of northern headwater storages and the limited re-regulation of flows via other storages, has meant that northern farmers have developed efficient on farm storage due to the challenges of river operations. The lower reliability of headwater storages and significant river losses of the natural delivery system, which is one of wet and dry is also important factors.

For example, most northern headwater storages have rules such a dam wall debiting that were developed to discourage rainfall rejection of orders due to lack of re-regulation. On-farm storage ensures a water user doesn't forfeit any ordered water, in the event it rains between placing their order and receiving it. River operators are also often unable to supply water on demand continuously in the Northern Basin and held water from the headwater storage is delivered more often than not, under bulk water releases. Meaning everyone gets a defined period to receive water, whether this suits their farming program or not and they must store it to meet crop requirements.

### **Does Floodplain Harvesting impact the volume of flows in the river?**

Floodplains behave differently in each region depending on the type of flood and where the water source originated from. But not all water on the floodplain reaches a river or stream, that is regardless of whether there is floodplain protection works. Floodplain harvesting take can only occur during a flood, it is often a small portion of the total water available at the time for example as in 2011 and 2012. NSW is working on a full hydrological assessment of this historical access as part of the Healthy Floodplains project.

### **Why isn't it licenced?**

Successive governments have failed to licence this form of take, it was nearly completed in 2004 in the first iteration of Water Sharing Plans, and this is evidence by the policy setting included as a schedule in the plan.

Farmers have had access to overland flows ever since the Water Act 1912 NSW. A cap on the amount of water that can be extracted was introduced in 1994/95. NSW is currently in the process of converting the descriptive right into precise volumetric licences as part of the Healthy Floodplains project. These limits will be set out in water sharing plans and the Murray Darling Basin Plan and water users will be required to comply with the 1994 CAP on take.

### **What volume was intercepted in this last event and did it have an impact on river flow?**

The rain last week was isolated and fell in storms, and with a drought stricken landscape, runoff rates were high, creating intense flash flooding that exceeded the interception capacity of farms. The numbers of farms that had likely potential to floodplain harvest in the two valleys is around 20.

In the Namoi, most of the overland flow in this event did not “drain” back to the river (it rarely does except in the big floods) as the rivers are the high point.

In the Gwydir, local rainfall and flash flooding made its way to the many low points of the floodplain, such as swamps and lagoons and the Mallowa watercourse. Some of these low points do drain into creeks but this is limited by stream size and the extent of flooding. Local rainfall around the junction with the Barwon River provided river connectivity.

Initial voluntary reporting has indicated that exempted take other than rainfall collected within the irrigation areas, was limited. This will be quantified in the coming weeks. The short lifting meant that those in the identified areas were able to better manage any remaining on-farm water without any confusion to those impacted farmers.

The limited understanding and detail provided to communities around the temporary lifting, has naturally concerned people regarding the impact on the first flush flows. Flows into the Barwon River from the flow in the Namoi River will be approximately 104 GL and from the Gwydir approximately 35 GL.

### **Why did the temporary restriction on FPH cause so much confusion?**

The issues that created complexity for northern farmers in the last event isn't the principle of applying an embargo on floodplain harvesting. Our frustration is the way in which it was done and how it was managed.

The notification of the temporary restriction order was made at the last minute on a Friday afternoon (4.04pm the media release went out) and a notice was sent to farmers at 5.15pm. This was the first-time such a requirement had been made. No information or detail on how a farmer could reasonably comply with the new rules was provided.

Water user groups urgently asked DPIE Water, NRAR and Water NSW to ensure that all farmers were provided adequate information and that a process be implemented to manage issues when and if they develop due to the rain.

The Department subsequently provided additional explanatory material via email on Saturday afternoon but refused to provide a contact for farmers to ask questions about how they could operate their farms. The department provided an email address for farmers to contact late on Monday afternoon.

The Department established a contact point in WaterNSW for water users to engage with and provide local monitoring information.

### **Why was the embargo lifted?**

Water users groups followed the process established by the Department and provided evidence of the flooding and flow monitoring, as it was received from farmers to WaterNSW to present to the Department to assess. The limited gauging network in these areas and the reporting delay of real time data, meant that information from those on the ground was crucial to better understanding where water was and where it was heading.

Throughout the weekend, farmers impacted by rainfall and flooding in many cases were faced with, not only the challenges of manage an excessive amount of water but also trying to operate their farms differently to how they are specifically designed, given the change in rules, which were not clearly understood.

In some instances, overland flows could not be excluded and were causing damage to roads and other infrastructure. In other instances, the exclusion of overland flows meant that their farms could not operate properly, which also caused damage. Flood heights and flood direction was unusual and somewhat unpredictable, given the change in historical practice (of floodplain harvesting) and the intensity in which the rain fell in isolated areas. For example, above Narrabri this local water was higher than the 2012 floods in sheds and around farms.

This information was forwarded onto the Water NSW to review and assess with DPIE Water. DPIE Water in communicating their decision announced that on their exemption order:

- They were satisfied there is sufficient water available for higher priority needs to approve the take of floodplain water at the locations, and for the limited period.
- Interim flow targets within the valleys had been met and downstream forecasts would provide connectivity.
- The main intent of lifting this order to minimise flood impacts and allow farmers to move water around their property to avoid damage to on-farm infrastructure.

### **Why were large areas exempt if the flood was localised?**

The difficulty for the Department was to provide exemption that aligned with the gazetted floodplains. The unregulated water sharing plan sub catchments were selected as legally definable boundaries. Not all farms located within sub catchment areas that were exempted had their either unregulated or floodplain access triggered. Initial voluntary reporting estimates the number of farms to be around 20 in the Gwydir and Namoi Valleys.

### **Why is there water in on-farm storages if the embargo was on?**

The Northern Murray Darling Basin Floodplain Harvesting order restricted all floodplain take other than rainfall collected in tailwater return systems and passive take that could not reasonably be prevented. These exemptions meant that with good rainfall there would always be some water captured in storages that had run off irrigation fields into tailwater return systems.

### **Can the rest of the community be confident in the decisions made?**

Water users in the Northern Basin support the need for the first flush to deliver critical human needs. However, the decisions around the application and operation of embargoes and their lifting, needs greater transparency. The step missing for all communities is to have transparency in the targets set and assessment of flows and the timing of decisions to provide confidence that critical human need requirements will be met.

This process must be undertaken with a clear methodology, based best available data and communicated to water users and communities up and downstream. A clear process is required to give confidence to downstream communities regarding flow assessment and priority of access and to enable farmers to understand the rules under which their businesses needs to operate when a drought does break.

### **Should the department have made an exemption for just individual farmers to manage impacts?**

Possibly if the regulation allowed for this, however due to the hasty nature of its application this wasn't an option despite it's request. The lifting of the embargo across an entire unregulated sub catchment failed to quantify that many farmers did not have any access to floodplain harvesting despite being within the mapped areas.

### **How much water from the north contributes downstream flows beyond the darling?**

Any water that flows into Menindee can be delivered to South Australia, this increases the reliability of water in Hume and Dartmouth as it can continue to be stored. The table below

from the MDBA River Management Division provides the contributions prior to development and post development.

What happens to the water when it reaches Menindee Lakes must be clearly communicated to all communities, given the magnitude of flows that have been foregone by those upstream communities to address their critical needs.

Lower Darling Contribution to River Murray @  
Wentworth

	Average Annual Contribution	Median Annual Contribution
Without Development	15%	14%
SDL	14%	12%
Observed 1968- 2019	16%	13%