INLAND RIVERS NETWORK


Image: Bev Smiles

Proposed pumping changes in small rivers need your support for frogs, turtles and fish

After a prolonged campaign to get improved protection for low flows in NSW river systems, the NSW Government caused 6 inland water sharing plans to lapse in July 2025 to allow for more consideration of environmental improvements. They have released some proposed rule changes in 11 tributaries across four inland catchments for community response.

Tributaries to major rivers are called ‘unregulated’ because they do not have a large storage dam capturing flows that are later released at flow rates and times ‘regulated’ by complex rules. ‘Unregulated’ rivers are entirely dependent on rainfall runoff and groundwater connectivity to provide stream flow.

A key objective of the NSW Water Management Act 2000 is to provide for the environmental needs of rivers. The initial water sharing plans for most unregulated rivers, gazetted in 2012, had few provisions to protect low flows from extraction. The replacement plans were to only protect very low flows along a tiny number of streams. Now, protection of significantly more low flows in several more streams may be added.

Rules that allow pumping until there is no visible flow threaten survival of water-dependent species. In long periods of no or extremely low flow, the flowing habitats where most native fish food is produced shrink and stop functioning. Pools are more likely to dry up and fish, tadpoles and turtle hatchlings can't swim to deeper refuge pools. Water quality may decrease (eg. oxygen levels) adding to stress on important ecosystems.

The proposed new pumping rules are out for comment until **Wednesday 15 October**. See page 4 for rules in the 11 parts of the Lachlan, Namoi, Gwydir, Cudgegong and Bogan.

While this is a good first step, it still leaves a large majority of sub-catchments operating under the ‘no visible flow' rule.

IRN strongly supports the proposed changes and encourages **everyone to fill out the simple submission form available at:** https://nswdpie.tfaforms.net/1572

Licensed water users who’d have to pump less often will oppose this. It is important that a strong environmental voice is heard now to give our endangered fish and water dependent species a chance for recovery (see pages 2 & 3)

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Reforms promise better environmental protection in unregulated sub-catchments

There are 11 sub-catchments selected across inland NSW with proposed rule changes to protect low flows for ecological benefit. These rivers and creeks have been identified as ecologically significant and under pressure from extraction. They have an operating gauging station that allows the low flows to be measured and protected under new cease-to-pump rules.

The sub-catchments chosen for improved environmental protection support many threatened aquatic species and those important in the river food chain.

1. Gwydir Unregulated Water Sharing Plan 2025

- Moredun Creek: supports Murray Cod, the endangered Eel-Tailed Catfish and Bell's Turtle
- Tycannah Creek: As a tributary of the Mehi River, is highly important for fish refugia, breeding and movement across the Gwydir Valley. It has high instream values supporting endangered Purple-Spotted Gudgeon and Eel-Tailed Catfish. It also contains ecologically important water-dependent ecosystems including the Lowland Darling River Endangered Ecological Community.
- Copeton Dam Zone: supports Murray Cod, the endangered Eel-Tailed Catfish and Bell's Turtle

2. Namoi & Peel Unregulated Water Sharing Plan 2025

- Cockburn River Zone: supports Murray Cod, Golden Perch, the endangered Booroolong Frog, Tusked Frog, Purple-Spotted Gudgeon, Eel-Tailed Catfish, Olive perchlet.
- Maules & Horsearm Creeks: supports the Tusked Frog, Davies' Tree Frog, Purple-Spotted Gudgeon, Eel-Tailed Catfish, and Olive Perchlet and is predicted to support the Booroolong Frog.
- Macdonald River (upstream Woolbrook): supports Murray Cod, including the Booroolong Frog, Tusked Frog, Bell's Turtle, and Eel-Tailed Catfish, and the vulnerable Davies' Tree Frog.
- Macdonald & Namoi Rivers Zone: supports Murray Cod, the Tusked Frog, Eel-Tailed Catfish, and the vulnerable Davies' Tree Frog, and is predicted to support the Booroolong Frog.

3. Macquarie/Wambuul Bogan Unregulated Water Sharing Plan 2025

- Cudgegong River Downstream Zone: supports Murray Cod, the Booroolong Frog, Golden Bell Frog, Purple-Spotted Gudgeon and Eel-Tailed Catfish.
- Lower Bogan River: supports Murray Cod, Silver Perch, Olive Perchlet, Eel-Tailed Catfish, and the Lowland Darling River aquatic endangered ecological community

Booroolong Frog Female - Phil Spark

Image: Juvenile Bells Turtle – Phil Spark

4. Lachlan Water Unregulated Sharing Plan 2025

- Lower Mandagery Creek Zone: supports Murray Cod, Silver Perch, the Booroolong Frog, Sloanes Froglet, Yellow-Spotted Tree Frog, Purple-Spotted Gudgeon, Eel-Tailed Catfish, and the Lower Lachlan River endangered ecological community
- Boorowa River & Hovells Creek: supports Murray the Booroolong Frog, Sloanes Froglet, Southern Pygmy Perch, and the Lower Lachlan River endangered ecological community

The increased protection of low flows will improve connectivity and flows into refuge pools, reduce the number of days of no flow and improve water quality. This additional water for environmental benefit will also improve habitat for waterbirds, aquatic plants and riparian vegetation that also supports a wide range of threatened land-based species. Additional flows improves drought resilience.

There is also an added benefit to downstream water users with basic landholder rights.

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Why Low Flows Matter ….

Healthy rivers aren't just about big floods — they also depend on the smaller, regular flows that keep ecosystems alive through drier periods.

L**ow flows**, are critical and must be protected with sustainable cease to pump rules. They are vital for the survival of fish, turtles, frogs, and even the tiniest stream invertebrates.

Different needs along the river

Headwaters– are home to particular species, like Bells Turtle in upper tributaries of the Namoi and Gwydir. Its hatchlings depend on very low flows to move safely across shallow riffles and sandbanks between pools. Without this trickle of water, nests and feeding areas are left high and dry.

Middle and lower reaches– Some fish and frogs including Booroolong Frogs prefer larger creeks. Further downstream, larger fish, like the **Murray Cod,** need both **deeper pools** and flowing reaches. They require more water than turtles or small bodied fish to move between pools, so the flowrate needs are greater in these sections of the river.

Frogs, turtles, and the rhythm of flows

Research, mostly from the NSW DCCEEW Water Science team, highlights just how closely our aquatic species are tied to flow patterns:

Turtles and flows: endangered Bell's Turtles rely on stable low flows in the Namoi and Gwydir tributaries to maintain feeding and nesting habitats (Coleman, Wood & Streeting, 2023)).

Frogs and flows: Stream frogs are specialists that need small but reliable flows to keep their breeding grounds moist and connected(Wood, Healey, Parsons & Coleman, 2023).

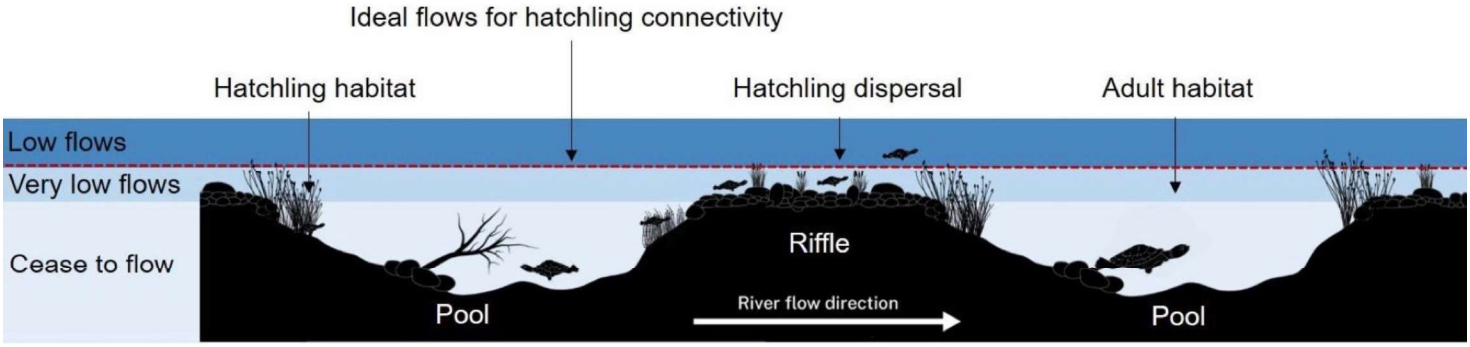
Don't forget the little things…

It's not just the big, charismatic species. Low flows also sustain **macroinvertebrates**: aquatic insect larvae and other tiny creatures. They are the foundation of river food webs, particularly those living in riffles and runs between pools.

For more on how water rules protect them, see: *The role of cease-to-pump rules in protecting macroinvertebrates in riffles and runs in the Gwydir Unregulated Rivers Water Sharing Plan.*

Comment on proposed Cease to Pump rule changes, Kate Boyd – "This is a small but important start to improving flows in dryish seasons. It is for ecosystems in these upper rivers (although flows protected there could help rivers downstream if the government adds protecting this water in regulated rivers).

The big change for and from these proposed rules is recognition of the value of ecosystems in small streams and recognition that they need flow in dryish seasons. Most native fish, turtles, pipis, etc, live in the vast number of tributaries across the Basin and need flows in all seasons to survive there, not just in big rivers. All streams should be treated as valuable habitat, not just as "water sources".



Conceptual diagram showing the core habitat of adult and hatchling Bell's turtle, as well as the required flows to protect connectivity for hatchling dispersal - from: Turtles and flows, Water requirements of the Bell's turtle (Myuchelys bellii) DPIE

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Lag in Measuring Flows

While these proposed rule changes are a good start. There are over 400 other unregulated rivers and creeks of inland NSW that need similar protections to prevent pumping all available water to 'no visible flow'. The reliance on expensive 'gold standard' river gauges is slowing down the essential reforms. There are numerous cheaper and easier low tech and low maintenance methods of measuring flow that could be implemented immediately.

The NSW water agency has produced a document that identifies priorities for new gauging stations across the inland under a Hydrological Risk Assessment. This has been referred to by the Connectivity Expert Panel but not released as a public document.

Measurement of flow and impacts of extraction is critical in all unregulated water sources. It is now 25 years since the *Water Management Act 2000* was legislated with a priority of ecological protection. It is critical that all water sharing plans meet this commitment.

Proposed cease-to-pump rules:
Inland Rivers Network strongly supports the proposed changes to water sharing rules across the 11 unregulated tributaries:

Gwydir :
Moredun Creek: cease-to-pump at ≤80 ML/day (Bundarra gauge).
Tycannah Creek: cease-to-pump at ≤2 ML/day (Horseshoe Lagoon gauge).
Copeton Dam Zone: cease-to-pump at ≤80 ML/day (Bundarra gauge).

Namoi & Peel :
Cockburn River Zone: cease-to-pump at ≤36 ML/day (Kootingal Bridge Weir).
Maules & Horsearm Creeks: cease-to-pump at ≤75 ML/day (Maules Creek at Avoca East).
Macdonald River (upstream Woolbrook): cease-to-pump at ≤60 ML/day (Woolbrook gauge).
Macdonald & Namoi Rivers Zone: cease-to-pump at ≤16 ML/day (North Cuerindi gauge).

Macquarie/Wambuul Bogan:
Cudgegong River Downstream Zone: cease-to-pump at ≤3 ML/day (Rylstone gauge).
Lower Bogan River: cease-to-pump at ≤48 ML/day (Gongolgon gauge).

Image: Golden Perch or Yellowbelly by HarryDavey

Lachlan:
Lower Mandagery Creek Zone: cease-to-pump at 10 ML/day (Eugowra gauge) with 2-day "first flush" before pumping resumes.

Boorowa River & Hovells Creek: cease-to-pump at ≤6 ML/day (Prossers Crossing gauge).

Please give your support to these important improvements

Additional information has been provided by Nature Conservation Council:
https://www.nature.org.au/submission_guide_cease_to_pump_rules

Lodge your submission by 11.59pm Wednesday 15 October at:

https://water.dpie.nsw.gov.au/our-work/plans-and-strategies/water-sharing-plans/public-exhibition/cease-to-pump