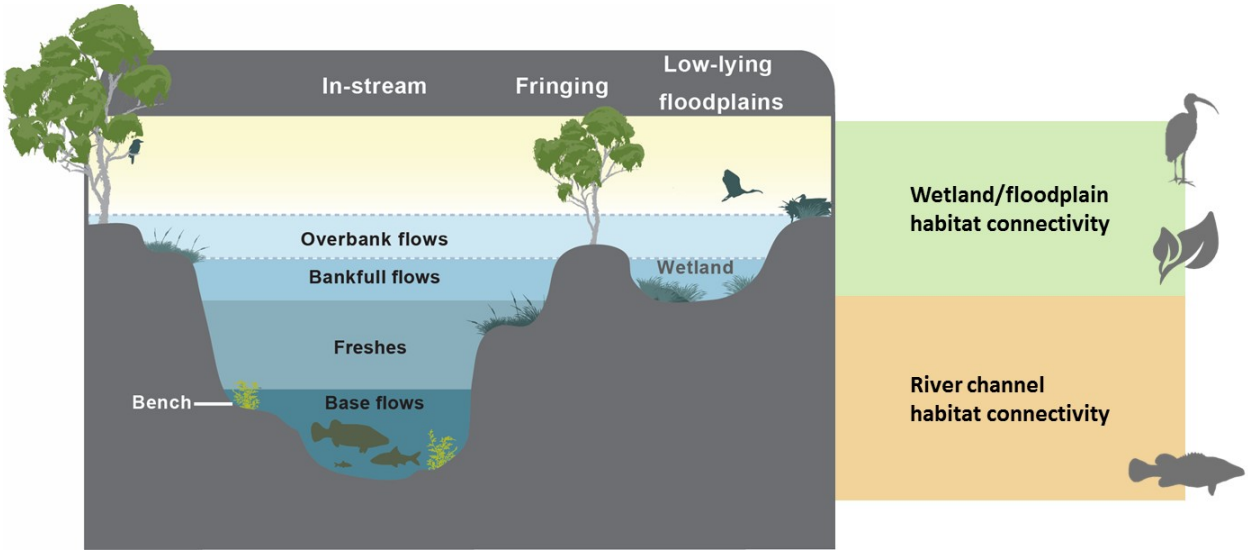
Gwydir

How much water recovery is being looked at?

- Baseline diversion limit (excluding interceptions), or how much water was available for consumptive use as at 2009, is 352.2 GL.
- Current Basin Plan legislation has a local water recovery target of 42 GL in the Gwydir. This is a 13% reduction in the consumptive pool.
- Current Basin Plan legislation also has a shared water recovery target of 143 GL across catchments of the North to meet the needs of the Barwon–Darling system. This includes a contribution from the Gwydir.
- An estimate of 48 GL has been recovered as at December 2015, which was used in the modelling as a standard point-in-time estimate. This is not necessarily where water recovery is at now.
- **The Northern Basin Review is looking at a range of water recovery scenarios. These range from no further water recovery in the Gwydir, up to 11 GL of water recovery that includes shared recovery.**

What flow indicators are we using and why?



River channel indicators:

- One base-flow — to connect habitats along the river. Base flows important for maintaining refuge waterhole habitats during dry times. If too many refuge waterholes dry out, local extinction of fish populations could occur with much slower re-colonization upon the return of wetter conditions. The Gingham Waterhole is notable as an important refuge for fish during dry times.

- One fresh — to connect habitats along the river and stimulate fish to breed and move. Freshes help provide more habitat, and different types of habitat for fish and other aquatic animals. Support a greater diversity of species as well as more fish.

Wetland/Floodplain indicators:

These are seven overbank flow indicators of a range of sizes, including ones that:

- Provide large enough flows for long enough to reach key flood dependent vegetation on the floodplain to maintain its character and condition
- Provide a large enough flow to reach key waterbird breeding and foraging sites for long enough to enable waterbirds to fledge their young
- Provide flows often enough so that waterbirds have more than one opportunity to breed during their lives (some ducks only live for 3-4 years while some of the bigger birds such as ibis can live up to 8 years)

Why?	Where in the landscape?	Stream gauge	Size of flow	Duration (days)	Timing	How often? (percentage of years)
Wetland/floodplain • Protect and restore Ramsar sites • Water wetlands and floodplain vegetation • Provide habitat for colonial waterbird breeding • Maintain largest stand of marsh club rush in NSW, and other important wetland vegetation • Increase food resources – exchange nutrients between river channels and floodplain • Inundate fringing vegetation, especially river cooba and red gum • Floodplain productivity (grasslands)	wetlands	Yarraman Bridge	45 GL	60	Oct-Mar	80-90
	wetlands and near-channel	Yarraman Bridge	60 GL	60	Oct-Mar	60-70
	low-level floodplain	Yarraman Bridge	80 GL	60	Oct-Mar	40-50
	mid-level floodplain	Yarraman Bridge	150 GL	60	Oct-Mar	20-30
	high-level floodplain	Yarraman Bridge	250 GL	60	Oct-Mar	12
	wetlands and low-level floodplain	Mallowa Creek Regulator	5.4 GL	120	Feb-Mar, and Aug-Sept	91
	wetlands and low-level floodplain	Mallowa Creek Regulator	4.5 GL	92	Nov-Jan	40-50
River channel • Movement between habitats • Successful fish breeding • Inundate benches and snags (habitat diversity) • Primary production supporting the food web • Connectivity through the river system • Maintenance of waterhole habitats • Breaks up extended dry spells	base flow	Yarraman Bridge	150 ML/d	45	Oct-Jan	85
	fresh	Yarraman Bridge	1,000 ML/d	2	Oct-Jan	85

What are the Gwydir environmental results?

- A large amount of the water needed from the Gwydir has already been recovered.
- In all water recovery scenarios we achieve 5 out of the 9 flow indicators.
- All scenarios reach the target frequency for high, mid and low-level floodplain, and wetlands and near-channel vegetation flow indicators (including supporting colonial waterbird breeding).
- All scenarios just fall short of the target frequency for the base flow, in-channel fresh (connecting habitats and fish movement and breeding) or low-lying wetland indicators (more water-dependent vegetation types). This represents a low level of ecological risk.
- We are confident that the range of water recovery scenarios being looked at will have good environmental outcomes for the Gwydir.