

**INFORMATION FOR THE SENATE STANDING COMMITTEE  
ON RURAL AND REGIONAL AFFAIRS AND TRANSPORT  
INQUIRY INTO MANAGEMENT OF MURRAY-DARLING BASIN**

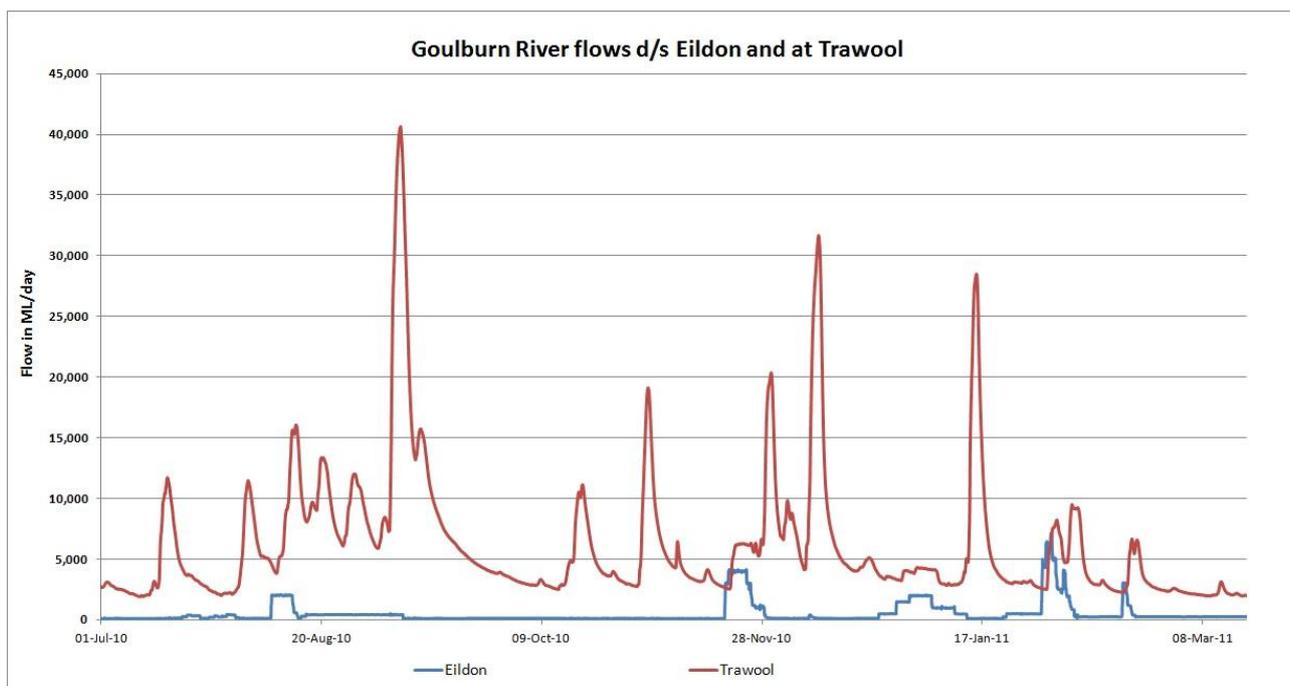
Thank you for the opportunity to send further information to your committee. In all of the Murray-Darling Basin Plan documents, the social and economic ramifications of large environmental water flows in the upstream Goulburn Catchment and its tributary catchments between Eildon Weir and Seymour, have been completely ignored. It seems that the upper Goulburn and its tributaries are simply viewed as the delivery channel, with the emphasis placed entirely on the lower Goulburn and Murray floodplains.

The devastating impacts on all those people living in the tributary catchments have been disregarded completely, as if we did not exist or matter. In fact, I believe people making decisions on environmental watering plans, are completely unaware of the flood affects on freehold land. Not once have I seen any mention of the fact that artificial high, elevated flows for a sustained period in the Goulburn River create a “backing-up” of waters in the tributaries, causing higher and more prolonged flooding.

The proposal to release large flows of 15,000ML/day “piggy-backed” on top of high rainfall events in the tributary catchments is diametrically opposed to normal operational procedures and places us in uncharted territory. This is what is particularly frightening to those of us who live on the floodplains and know from many years of experience the difficulties, hardship and financial cost this will cause.

There is no historical precedent for purposely manipulating an overbank flood event and the only occasions this occurs is to avoid over-topping of Eildon Weir.

Historically, when there are large downstream rainfall events, releases from Eildon are dramatically reduced to alleviate flooding and minimise the losses to towns, cities and landowners on the floodplain.



The graph very clearly shows the magnitude of flows from tributaries, the Rubicon, Taggerty and Acheron Rivers, Home Creek and Spring Creek, the Yea and Murrindindi Rivers and Dairy Creek and Spring Creek below Eildon Weir and above the Trawool Gauge.

If we add 15,000ML/day environmental flow discharge from Eildon Weir to the above tributary flows(40,000ML/day) it is very obvious from the graph that at the end of August 2010 the total flows would have been 55,000 plusML/day at Seymour which is well above the moderate flood level of 38,900ML/day.

Apart from substantial inundation in rural areas this will cause minor and major traffic routes to be closed, low level bridges to be submerged and probably the evacuation of some houses. See definition flooding levels below:

*1Minor Flooding. Causes inconvenience. Low lying areas next to watercourses are inundated requiring the removal of stock and equipment. Minor roads may be closed and low level bridges submerged.*

*2Moderate Flooding. In addition to the above, may require the evacuation of some houses. Main traffic routes may be covered. The area of inundation is substantial in rural areas.*

*3Major Flooding. In addition to the above, causes inundation of extensive rural areas and appreciable urban areas. Properties and towns are likely to be isolated and major traffic routes likely to be closed. Numerous evacuations may be required*

■ **Table 15 Goulburn River Flood flows**

Station	Station Name	Minor Flood <sup>1</sup> (ML/d)	Moderate Flood <sup>2</sup> (ML/d)	Major Flood <sup>3</sup> (ML/d)
405203	Goulburn R at Lake Eildon	14,500	26,000	40,000
405201	Goulburn R at Trawool	21,700	41,500 *	83,000
405202	Goulburn R at Seymour	22,800	38,900 *	80,900 *
405200	Goulburn R at Murchison	29,200	58,800	79,670
405204	Goulburn R at Shepparton	22,500	67,780	87,000
405232	Goulburn R at McCoys Bridge	29,200	50,000	62,600 *

SKM FINAL REPORT Goulburn Campaspe Loddon Environmental Flow Delivery Constraint Study – Nov. 2006

The document, *Hydrologic Modelling of the Relaxation of Operational Constraints in the Southern Connected System: Methods and Results October 2012* Page 9 states:

“In general, managed environmental flows will rarely exceed minor flood levels.”

I totally dispute the above statement, and the above graph and table show that flows will be well in excess of moderate flood levels. It is a fact that more than 50% of total Goulburn flow is generated by tributary flows below Eildon Weir.

It is impossible to accurately forecast follow-up rain events at short notice, in order to avoid major and catastrophic flooding as in 2010.

The unpredictability and variability of rainfall in the upstream tributary catchments of the Goulburn River is well known and I cannot see how there can be accurate forecasting without rainfall and streamflow modelling of each individual tributary catchment.

Rainfall varies from 700mm/yr at Yea to 1200mm/yr at Toolangi (headwaters of the Yea River) to over 2,000mm/yr in the adjacent Murrindindi catchment. Although in close proximity the rainfall in these

catchments of the Great Divide vary enormously.

It is much easier to forecast rain in a short lead up time and usually less accurate over a 7 day forecast. It is also acknowledged as more difficult to forecast rainfall over a smaller catchment as the intensity of any rain system varies on small spatial scales.

Flood forecasters rely heavily on real time data about rainfall and river water levels as well as rainfall forecasts.

However, combined with the difficulty of accurately forecasting individual tributary rainfall is the lack of tributary “real-time” stream gauges in the upstream rivers and creeks thus reducing the predictability of water volumes flowing down the Goulburn tributaries.

Nearly half the combined catchments of the Yea( the second largest upstream tributary to the Goulburn) and Murrindindi Rivers from their headwaters to the junction of the two rivers is BELOW the current streamflow gauges. This ungauged area is characterised as fast flowing mountain streams. A report in February 2008 –Final Recommendations- Determination of Environmental Flow Requirements for the Yea River states: “The ability to accurately model the hydrology in a catchment the scale of the Yea River is heavily compromised due to the paucity of streamflow gauges.”

The flooding regime caused by the increased proposed environmental water releases to create a man-made flood will be changed from what has been natural flood flows in the Goulburn tributaries. The tributary streams are fast flowing mountain streams, and floods come down very quickly - 6 hours in the Home Creek catchment and 12 hours in the Yea & Murrindindi Rivers. They then recede very quickly also, unless there are considerable follow up rains.

However, the proposed environmental releases are intended to be more sustained and prolonged. It is stated that the Environmental Watering Plan objectives at certain indicator sites in the Lower Goulburn River Floodplain (flows gauged at McCoy’s Bridge on the Goulburn River) would require “25,000ML/day for a median duration of 5 days between June and November for 70% of years” and 40,000ML/day for a median duration of 4 days between June and November for 40% of years to ensure floodplain and wetland communities are sustained in a healthy condition.

The above indicates that due to the “backing-up” effect in the tributaries, caused by prolonged and elevated levels in the Goulburn every 2.5 years, floodplain landowners will be at risk of man-made manipulated flood level flows that will not mimic a natural flood, that rises and falls quickly, but will see sustained and prolonged flooding. This will totally destroy the productive and economic capacity of thousands of hectares of these lands and will cause them to revert to weeds and rushes.

It is proposed to release the manipulated flood flows down the river systems during Spring, which will be detrimental to many businesses. Rural enterprises along the lush floodplains and wetlands of the river systems between Eildon Weir and Goulburn Weir are highly geared towards food production in the peak spring period, aiming to market stock on the back of the Spring flush of pasture, produce large quantities of hay and silage from September to November and finish off crops before harvesting.

The lack of flood warning system in the upper catchment. These are fast flowing mountain streams and floods come down extremely quickly. There are NO flood warning systems geared to alert enterprises along the rivers. The BoM flood ratings which alert the public to flood levels are geared towards urban areas.

The photo below, taken 18<sup>th</sup> August 2012, is flooding on our property along the Yea river, the second largest upstream tributary to the Goulburn . The Bureau of Meteorology, according to flows recorded at the Yea River streamflow gauge, showed a flow level of 1.51metres which does not even reach the minor flood level of 1.8m. and therefore no flood warning was given.



According to the Bureau, the Yea River needs to get to 1.8m, which equates to a flow of 5,620 ML/day, before minor flooding begins.

In my lifetime warnings of impending floods come from other landowners upstream and from my own experience and knowledge acquired over a long period of time. There has never been any accurate or timely warning system available to landowners along the floodplains.

When large rainfall events occur in the Murrindindi catchment, and not in our local area or Yea catchment, it is practically impossible to predict the amount of floodwaters coming down.

I am therefore very concerned how unpredictable tributary flows, combined with totally insufficient real time data and the time lag factor for streamflows combined with large environmental releases from Eildon Weir, will impact on floodplain landowners and the many towns along the river system such as Yea, Seymour, Shepparton.

The following is anecdotal evidence of how releases of 15,000ML /day will affect various long-standing and profitable enterprises:

1. The Goulburn River Trout Farm is the largest trout farm in Australia and is situated just below the convergence of the Rubicon River with the Goulburn River, so is close to Eildon Weir. The trout ponds are gravity fed from the Goulburn and if releases from Eildon get to 15,000ML/day, the owners become very nervous, particularly if flows in the Rubicon are also high, as they then need to implement flood mitigation by pumping water from their lower country as there is a greatly elevated risk of losing their fish.

In jeopardy, with flows in excess of 15,000ML/day at their property, is \$800,000 worth of trout and the jobs of 22 full-time employees.

2. Acheron Twin Rivers Caravan Park on the banks of the Goulburn and Acheron Rivers begins to flood when flows in the Goulburn River exceed 11,000ML/day, and at 12,000ML/day serious flooding of park starts
3. Molesworth Caravan Park and Yea Caravan Park both require evacuation at short notice during high flows from the Goulburn and Yea Rivers
4. Beef farmer on the Goulburn River at Home Creek. At 8,000ML/day, the river is still within its banks. At 10,000ML/day, the river is flooding into lagoons; at 15,000ML/day, there is moderate flooding of freehold land, requiring stock to be shifted. In a large flood flow 90% of this property floods requiring stock to be sent on agistment. Note that these flows do not include whatever flows may come down Home Creek in a high rainfall event. This creek, the name being somewhat a misnomer, originates in the Strathbogie Ranges and rises very quickly- 6 hours- often cutting the Goulburn Valley Highway, the main route to the Mt. Buller snowfields and the high country renowned for tourism.
5. Potato farmers on the Acheron River Flats are at risk of having their crop inundated during Spring or having to delay planting or lose early plantings due to “backing –up” of waters caused by high levels of flows in the Goulburn River during the Spring period when it is proposed to make environmental releases.
6. HG Turf Farm on the Goulburn River Flats, which also includes seed production. High overbank flows inundate seed crops, making it necessary to spray out paddocks and re-seed crops to retain the necessary high quality seed production required. This position is untenable and morally unjust.
7. As a beef farmer in the floodplains of the Yea River, the proposal to “piggy-back” these environmental flows on the back of rainfall events terrifies me as to the possibilities of severe and prolonged flooding in the sub-catchments.  
In the case of our property and many others along the Yea River, when our floodplains are inundated, the floodwaters simply cannot get away as they remain backed up by the high river levels of the Goulburn.

Consequently, when our pastures are underwater for long time frames, we obviously not only lose the use of valuable grazing area, but also pasture quality deteriorates and weeds, such as flood tussocks and brown tussocks increase dramatically.

In Aug-Sept. this year, flood pre-releases from Eildon Weir were in the vicinity of 10,000-18,000ML/day and have given a perfect scenario of what will happen when environmental releases are made. The elevated Goulburn River levels kept the Yea River running at banker level for 8 weeks –which I have never seen before and I have lived on the Yea River all my life. If we had received a high natural rainfall event in our local catchment during this period the consequent flood would have been extreme and felt all the way down the Goulburn.

Max release 23/6/12 18,592ML/day.

Releases consistently stayed at 13-16,000ML/day till 4/8/12 when they dropped back to 11,067ML/day.

18/9/12 -Release was 11,100ML/day and then dropped back to 3-4,000ML/day.

These high and prolonged river levels delayed access to river flats by 6 weeks to apply fertiliser to river flats for pasture boost necessary for peak silage production.

8. Chateau Tahbilk 15,000-16,000ML/day gauged at Seymour is minor flood level for them. 23,000-24,000ML gauged at Seymour is serious. Can flood some of their vineyard, affect their ability during humid spring weather to access vineyard areas at exactly the time spraying is required to prevent mildew. Can also affect some of their cereal cropping ground. If it is a natural flood that rises and falls quickly it is OK, but any sustained, prolonged flooding is detrimental.

It is obvious that the Gillard Government's proposed increased watering plan where there will be NO constraints, with flood easements created, bridges raised and levee banks created is simplistic and quite frankly ludicrous. The amount of \$1.7 billion to ameliorate or mitigate flooding problems is totally inadequate for what would be required. The floodplains and wetlands of the Goulburn River and its tributaries are among the most developed, populated and productive rural land in Australia and are highly valued. The area of easements involved would be thousands of acres and in some cases would include whole farms, or the most productive part of many farms without which, the remainder of the property would no longer be viable.

Any artificial man-made overbank flows in the Goulburn River will result in massive compensation claims by affected landowners, businesses and communities.

The latest amendments and proposed no constraints will fail all 3 fundamental core values- environmental, social and economic.

PLEASE SEE NEXT PAGE MAP OF TRIBUTARIES TO THE GOULBURN RIVER BETWEEN EILDON WEIR AND THE GOULBURN WEIR AT NAGAMBIE

Map showing tributaries to the Goulburn River between Eildon and the Goulburn Weir

