

# REVIEW OF THE OPERATION OF THE CAP

# RESPONSE SHEET FOR COMMENTS ON DRAFT REPORT

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## GENERAL SUBMISSION

*Border Rivers Food & Fibre* is the umbrella organisation for ten affiliated water users' associations with 450 irrigator members from both NSW and Queensland. We operate by informing our members on the issues, consulting extensively with them and arriving at agreed positions. Our affiliated associations are:

- *Boomi-Gnoura Gnoura Water Users Association* (NSW unregulated, mainly S&D)
- *Croppa Creek Sandstone Bore Advisory Association* (NSW groundwater)
- *Dumaresq Valley Irrigators Association* (NSW & Qld regulated & groundwater)
- *Lower Weir River Water Users Association* (Qld unregulated)
- *Macintyre Brook Irrigators Association* (Qld regulated)
- *Macintyre River Basin Water Users Association* (NSW & Qld regulated)
- *Macintyre Valley Cotton Growers Association* (industry association)
- *Mole & Sovereign Water Users Association* (NSW unregulated)
- *Mungindi Water Users & Cotton Growers Association* (NSW & Qld regulated)
- *Pindari Water Users Association* (NSW regulated)

The Border Rivers catchment is unique because of its cross-border location, complex mix of regulated and unregulated streams, and extensive lower floodplains. Water users in our catchment access water from:

- The NSW regulated system, supplied by Pindari Dam, a share of Glenlyon Dam, and tributary inflows
- The Qld Dumaresq River Irrigation Project regulated system, supplied by a share of Glenlyon Dam and tributary inflows
- The Qld Macintyre Brook Irrigation Project regulated system, supplied by Coolmunda Dam
- NSW unregulated tributaries, primarily the Mole River, Tenterfield Creek, Upper Macintyre River, Beardy River and Ottleys Creek
- NSW unregulated effluent streams, primarily Whalan Creek and the Boomi River
- Qld unregulated tributaries, principally:

- The Severn River and tributaries, supplying the Granite Belt
- The Weir River, which enters the system near its end point at Mungindi, and also is interconnected with the trunk system by the Newinga Breakout
- Overland flows
- Dumaresq Valley Groundwater Area alluvial groundwater (used for irrigation)
- Croppa Creek Sandstone artesian groundwater (used for irrigation)
- Fractured rock groundwater in the upper catchment (very limited use)
- Artesian and sub-artesian groundwater elsewhere (stock and domestic use only)

Irrigation in the Border Rivers has been characterised by:

- A thriving tobacco industry in the middle and upper catchment until the late 70s
- Construction of Glenlyon Dam in 1976
- Gradual development of the cotton industry from the early 80s, a later start than the NSW valleys to the South
- A continuing struggle to replace tobacco, with the gradual emergence of corn, peanuts, vegetables, stonefruit and wine grapes as potentially viable crops
- A boost to NSW water supply and reliability with the contribution of the enlarged Pindari Dam from 1996 onwards

Because of this complexity, and the post-Cap enlargement of Pindari Dam, analysis of the operation of the Cap and its future refinement is not a simple task. However, after detailed consultation, we have adopted a comprehensive set of policies for the Border Rivers, of which the following are relevant to the Cap:

- All licences must be volumetric, and all extractions metered
- Nominal allocations for existing water resources must not be increased, new licences must not be granted, and the granting of unprocessed licences must be vigorously opposed
- Existing system products must remain separate from each other, and have their individual reliabilities preserved
- Extraction limits on the regulated and unregulated segments should be managed separately
- Regulated extractions should be limited by the licence embargo, current nominal allocations, an upper limit on off allocation extractions, and flow management rules, with no other cap mechanism required
- If a rolling average cap is imposed as an interim measure, it should be monitored by a flow model approved by regulated water users, with negotiation of mechanisms to bring extractions back to the average if there is a rising trend, providing the rolling average is set at a realistic level
- The limit on unregulated extractions in both States should be determined by a combination of the licence embargo, volumetric allocations and flow management rules, with no other cap required
- If rolling average caps are imposed on unregulated segments as an interim measure, they should be monitored by flow models approved by the unregulated water users concerned, with negotiation of mechanisms to bring extractions back to the average if there is a rising trend, providing the rolling average is set at a realistic level

We fully support the principle of limiting extractions as a means of ensuring long-term sustainability and protecting the access of current water users from erosion. However, we

submit that a “one size fits all” imposition of the Cap is totally inappropriate for our catchment. Given that the NSW and Queensland Governments are committed to a Cap, but are at different stages of implementation and lack a common methodology, we have a range of concerns and comments about the particular circumstances in the Border Rivers.

### **Comparison with other catchments**

The Border Rivers began broad-scale development later than most other valleys. The consequence is that, while the majority may have reached full development by 1993/94, we were still considerably short of our sustainable limit. At current levels of development, the latest model run indicates that we are extracting some 26% of average system flows, which is well below many longer-established valleys. On average, three quarters of the flows in the system pass downstream. By overall system standards, our consumption falls well within reasonable bounds and we are providing significant environmental flow contributions.

We contend that a hard and fast adoption of the 93/94 level of development for setting the Cap discriminates against those in our valley who have long-standing pre-embargo licences which, because of the particular circumstances which have applied over time, they were unable or unwilling to activate until resource security improved and economic conditions were more favourable. On a regional basis, irrigated production underpins our economic and social viability. We do not want our later development to adversely affect our future prospects.

*Recommendation: 1993/94 should not be the Cap benchmark for the Border Rivers*

### **Water use efficiency**

The average yearly discharge from the Border Rivers is very small compared to that in the Murray and Murrumbidgee. Queensland, despite containing some 25% of the Basin's area, contributes only 4% of its flows. By the time they reach Menindee, these flows reduce to one quarter of their original volume through natural processes alone. A strong case can be made for the efficiency of using water higher up in catchments, as the following table clearly demonstrates.

Volume leaving Border Rivers with no use	Volume arriving at Menindee (no intervening extraction)	Volume leaving Border Rivers after one quarter used	Reduced volume arriving at Menindee (no extraction)	Loss at Menindee associated with 250 ML use in the Border Rivers
1,000 ML	250 ML	750 ML	187.5 ML	62.5 ML

Use of 250 ML in the Border Rivers leads to a reduction of only 62.5 ML at Menindee. Conversely, use of 250 ML at Menindee requires a flow of 1,000 ML from the Border Rivers. The difference in water use efficiency is clearly evident.

We are not arguing that more water should be available for use upstream at the expense of downstream users. We acknowledge the need for upstream catchments to provide water for downstream environmental needs and consumptive use. What we are unable to accept is the almost universal perception that excessive use in headwaters catchments is causing most of the problems lower down.

*Recommendation: The Cap is not to be used as a mechanism to obtain excessive volumes of water from upstream catchments to address downstream problems, thereby causing inequities between different parts of the system by virtue of their geographic locations*

### **Differing rates of development between the States**

Key elements of the Qld situation were:

- the inability of Qld Border Rivers irrigators to obtain more than one 650 ML licence per property
- no provision for permanent transfers (still in force)
- the substantial over-allocation of Glenlyon Dam
- the need to develop incrementally so that funds could be accrued for the construction of on farm storages to supplement deficient on allocation water with off allocation access (irrigation using dam-supplied water only is not a viable proposition for Qld)
- the time taken to set up and establish the Yambocully and Callandoon water supply schemes

Because of the interaction between these complex factors, development on the Qld regulated segment based on its share of the available resource (as defined in the Border Rivers Acts and Agreement) lagged behind that in NSW. The 1993/94 development benchmark is therefore totally inappropriate for any Qld Border Rivers cap. Our position is that 1999/2000 is appropriate. This is reflected by current Qld Government policy.

*Recommendation: Adopt 1999/2000 as the Cap benchmark for the Qld Border Rivers*

### **The Pindari Dam enlargement**

The *Pindari Dam Memorandum of Understanding* between the NSW Government and NSW water users was signed on 27<sup>th</sup> August 1990, but water from the dam did not become available until February 1996. Water users take time to develop confidence in the yields of new dams. For Pindari water users, this has involved:

- an assessment of the degree of improvement to the previously disastrous reliability of 45% of allocation in 45% of years, and
- decisions about the reliability figure at which further judicious development was warranted to capitalise on the \$37.5 million investment by water users in the dam's enlargement

The *daily flow model* (IQQM) which is being used to establish an uplift factor is flawed in that it is building in current development statistics and assuming that water users have had sufficient time to make decisions and adjust to the conditions provided by the enlarged dam.

We submit that this period of adjustment has not yet run its natural course. *It is therefore vital* to ensure that Pindari uplift factor acknowledged in the Cap setting process is a realistic and equitable one, given that the *Memorandum of Understanding* preceded any serious discussion about or agreement on the Cap by a considerable period. Water users who are contributing significantly to the cost have a legitimate expectation that the benefits they expected from their involvement are actually achieved.

*Recommendation: Allow more time for a rigorous investigation, involving detailed consultation with affected water users, of what a realistic uplift factor for the Pindari Dam enlargement should be*

### **The Border Rivers Flow Management Plan (WAMP)**

Now under way for four and a half years, this Plan, to be used by the Qld Government as a basis for setting a Cap, is having a very complicated birth. Contributing factors are:

- Development of a *daily flow model* (IQQM) in which all stakeholders have a reasonable degree of confidence, a task made very difficult by the cross-Border element, determination of appropriate development benchmarks, the requirement to "build in" irrigator behaviour which is still in a state of flux, and the complex physical characteristics and relationships within the system
- The pressure on the NSW Department to use the model to set the NSW regulated cap before sign-off by all concerned (we are having difficulty in obtaining reliable model details and outputs to allow proper assessment to take place)
- The lack of rigorous scientific assessment of system condition and trends, with the Technical Advisory Panel to the *flow management plan* providing only a rapid assessment of very limited scope which has been virtually discarded as part of the decision support system
- Little or no socio-economic impact analysis available, and none proposed
- The inability at this stage to come up with coordinated NSW and Qld policies for the Border Rivers, thereby rendering an integrated flow management plan impossible; a Ministerial Forum and Standing Committee involving the NSW and Qld Murray-Darling Basin Commissioners<sup>1</sup> has been proposed for some time, but is very slow in being realised

We do not believe that realistic extraction limits can be established until there is an integrated *flow management plan* based on an acceptable *daily flow model* AND good scientific evidence of the causal link between flow regimes and system health AND information and tools to allow a balanced response to environmental, social and economic needs.

*Recommendation: Apply interim extraction limits to the Border Rivers pending cooperative organisational arrangements between the States and the completion of an integrated Flow Management Plan that allows the use of a common extraction monitoring and impact assessment methodology by both States*

*Recommendation: Retain the 120,000 ML NSW off allocation limit during this interim period*

### **Relationship between the regulated and unregulated systems**

The regulated systems have been volumetrically allocated and metered since inception. There are continuous records of extractions, and methods to limit these extractions have been in place for a considerable time. These include licence embargoes, maximum annual use limited to nominal allocation, an off allocation limit of 120,000 ML for NSW, and compliance with the North West Unregulated Flow Management Plan for downstream stock and domestic supplies, algal suppression and fish migration.

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<sup>1</sup> We have submitted that the two Directors-General should be on the Standing Committee

In contrast, the unregulated systems are not volumetrically allocated or metered, although programs to achieve this are under way in most areas. The amount of unregulated water used is not known with any degree of accuracy. Stream gauges are typically at the bottom of unregulated streams, so that the *daily flow model* cannot be used as a tool to examine what happens within those streams. New monitoring methods and sub-models have yet to be developed.

Unregulated licences carry a wide range of conditions, but typically are area-based and tied to pump start and stop times tied to stream flow levels. Their current structure does not lend itself to any form of cap mechanism: this can only be achieved by volumetric allocations, metering, flow management rules and monitoring for compliance. We strongly support this approach.

Our policy is that *extraction limits in the regulated and unregulated systems must be managed separately*. Given that both Governments have adopted as policy that *further deterioration in the end-of-system flow regime at Mungindi will not be allowed*, it is clearly inequitable if further unregulated development (which cannot currently be monitored or controlled) impacts adversely on the regulated systems.

*Recommendation: Pending universal volumetric allocations and metering, establish separate regulated and unregulated caps for the Border Rivers and manage them separately to avoid an unfair adjustment of the equity between the two sectors*

## **Summary**

The combined impact of the issues discussed above clearly indicates that a thoughtful and time-sensitive approach to the implementation of a Border Rivers Cap is absolutely essential. At stake are an accurate and equitable assessment of:

- our long-term sustainability
- our obligations to the system as a whole
- our right to a fair share of the resource

We do not yet have:

- A good understanding of the unique circumstances pertaining to development
- A *daily flow model* in which we have sufficient confidence to use it as a major decision-making tool
- Objective environmental, social and economic evidence on which to base decisions
- Coordinated policy between the States to enable an integrated *flow management plan*
- Practical means of monitoring all extractions and ensuring compliance with extraction limits

*We submit that there is ample evidence for the Border Rivers to be treated as a special case, and would welcome discussions as to how this can occur.*

## **Response to the specific issues raised by the Cap Project Board**

In general, we concur with the “big picture” views expressed by the NSW and Qld Irrigators’ Councils. Where an issue specific to the Border Rivers has been canvassed above, additional relevant comment has been made below.

	Cap Project Board Position	Comment
<b>Ecological Sustainability of Rivers</b>	The Project Board has concluded that the Cap has been an essential first step in providing for the environmental sustainability of the river system of the Basin. Without the Cap, there would have been a significantly increased risk that the environmental degradation of the river system of the Murray-Darling Basin would have been worse.	We agree with the need for environmental, economic and social sustainability on a catchment-wide basis. However, sustainability within each valley is an essential prerequisite to sustainability of the catchment as a whole. We do not agree that some valleys should be held below their sustainable levels to compensate for others which have exceeded theirs.
	However, the Project Board has concluded that there is no certainty that the Cap on diversions at its current level represents a sustainable level of diversions – the level at which it is set being that which existed at the time when it was decided to introduce a Cap. Further, the Project Board recommends that as better information informs our management of the Basin’s resources, the level at which the Cap is set should continue to be refined to reflect our increased understanding. It is likely that such refinements may lead to the lowering of the level of the Cap in some valleys. Indeed, some jurisdictions have already increased the environment’s share, via access restrictions in addition to that required by the Cap, as part of their longer-term direction of improved water management	We acknowledge the need for the continuing development of good science. A rational approach is to accept today’s conditions as a benchmark for the future, and to adopt a program of continuous improvement based on the availability of suitable technology and resources.

	Cap Project Board Position	Comment
<b>Economic and Social Impacts</b>	The Project Board considers that there is compelling evidence that the Cap has already delivered significant economic and social benefits to the Basin community and that the net benefit will increase over time.	The Cap has not delivered <i>identifiable</i> economic and social benefits: to our knowledge, no suitable tools have been used to assess economic and social impact to anywhere near the degree that environmental impacts have supposedly been assessed. The Cap <i>may</i> be beneficial by forcing us to look now at future impact of current trends.
	The results of research conducted for the Review make it clear that, in the absence of the Cap, the erosion of security of supply for irrigators and other users would have been significant. These analyses were performed on several systems across the Basin reflecting diverse agricultural practices and climatic conditions.	Security of supply for current irrigators is certainly a critical issue. If the Cap can succeed in preserving security and reliability for existing water users (and those who enter by trading) <i>without</i> unnecessarily restricting use to sustainable levels, it will be doing its job.  Security of supply is important for emerging industries as well as currently viable ones. Industries take years, often decades, to develop to their potential. Once lost, they are extremely difficult to re-establish. New industries are very delicate in the early stages. We need to preserve diversity and keep opportunities alive. The high value agriculture of the future may be completely different to that of today, but will still need available and affordable water during its embryonic stages.
	Through guaranteeing security of water supply at the valley level, the Project Board views the Cap as having provided a more certain climate for long-term investment and development, particularly in high value agriculture and value adding processing, as well as providing benefits to the environment.	In our valley, it would be a tragedy to see water diverted away from presently lower value crops such as peanuts, corn, potatoes and stonefruit, towards the more viable cotton, only to see the cotton industry go into sharp decline. Equally tragic would be the inability to establish high-value wine grape production (which is in its embryonic stages in the Tenterfield region) because the necessary water has been moved out of the suitable area and is too expensive to buy back.
	The Project Board considers that the Cap has provided a mechanism for restraining, in an orderly fashion, growth in diversions while enabling economic development to proceed.	An inevitable side effect of the Cap is its inflation of the value of water by emphasizing its status as a finite resource. We therefore see it as absolutely essential for a Cap, once established on an equitable basis, to remain with a valley permanently, rather than being adjusted according to trades in and out. Otherwise, the natural dynamics of development will be permanently distorted by artificial structural adjustment. We should not embrace “short term gain” at the risk of “long term pain”
	The Project Board recognises that this strong positive conclusion will not be the perception of every stakeholder in the Basin. However, the Project Board concludes that the overall benefit of the Cap, especially from ensuring security of supply at a valley level and providing an environment within which water trading and related reforms could be developed, has been a positive one.	

	Cap Project Board Position	Comment
<b>Equity</b>	<p>The Project Board identified several equity issues (notably Cap arrangements for Queensland and the ACT) of longstanding duration that require urgent resolution. In addition there are several more recently identified equity issues (floodplain and overland flows and diversions, farm dams and tree plantations) also requiring attention. The effective management of these issues will necessitate a total catchment management approach to water management that embraces both surface and groundwater resources.</p>	<p>We have addressed the Qld equity issue in our general submission. With regard to floodplain and overland flows, and farm dams, our policy is:</p> <ul style="list-style-type: none"> <li>• No change should be made to overland flow access for existing irrigation developments</li> <li>• We acknowledge that in the future there may be a need for voluntary codes of practice and/or regulation with respect to overland flow</li> <li>• Applications for new overland flow diversions should be rejected if they would cause a reduction of flows into waterways from which licenced extractions take place and/or from which environmental flows are provided</li> </ul> <p>We acknowledge that overland flow and floodplain diversions need to be taken into account by the Cap where they have the capacity to impact on the security and reliability of existing water users.</p> <p>With regard to farm dams, we are opposed to the unregulated manner in which this policy is being implemented ie no licences, no meters. Technological advances can make farm dams more viable at any time. This has the potential to seriously distort the access mix if farm dam diversions are included in the Cap.</p>
	<p>The Project Board focused on equity issues arising from the implementation of the Cap between jurisdictions and between river valleys within States. In several cases, the submissions received by the Review of the Operation of the Cap raised equity issues that are about the details of implementation within valleys which are outside the jurisdiction of the Murray-Darling Basin Commission and Ministerial Council processes. The vast majority of such issues related to the recognition of licensed entitlement versus history of use, specifically in New South Wales (the “sleeper/dozer” issue). Such issues need to be dealt with by the particular jurisdiction concerned. In order that all submissions receive appropriate attention, these submissions and that of the CAC have been referred to the appropriate Government for consideration and reply.</p>	<p>Our policy on sleepers and dozers is:</p> <ul style="list-style-type: none"> <li>• All unactivated and partially activated surface water licences in the system should have the same status as active licences, unless an alternative proposal is approved by affected water users (for example, the NSW unregulated area licence conversion to volumetric)</li> </ul> <p>This policy recognises that, if licences are activated which require access to an existing pool of water of finite volume, this necessitates a corresponding decrease in levels of access of existing users.</p> <p>We agree that this is an “internal” rather than Cap issue, but contend that the existence of sleepers and dozers should be taken into account in the Border Rivers when determining the benchmark level of development for the Cap. The arguments to support this position have already been put forward.</p>

	Cap Project Board Position	Comment
<b>Implementation and Compliance</b>	The work of the Independent Audit Group (IAG) on the ongoing implementation of the Cap and compliance of actual diversions with Cap target diversions has provided a clear direction for the finalisation of the implementation phase of the Cap. The Project Board generally supports the IAG recommendations.	<p>It is essential for the Independent Audit Group to be absolutely rigorous in its verification of the accuracy and reliability of the flow and extraction figures provided to it by the State agencies. Otherwise, invalid conclusions can be drawn and unnecessary recommendations made on the basis of them.</p> <p>We have concerns about the accuracy of figures pertaining to the Border Rivers.</p>
	Significantly, effective compliance tools (computer simulation models used to determine Cap target diversions) have not yet been developed and the Project Board recommends that a high priority be given to the finalisation of these models.	We agree. However, our experience is that it is extremely difficult to ensure that all the model inputs are acceptably accurate. We have participated in a Working Group developing our model, and on each new revision continue to find errors and inconsistencies. This is a serious concern. We submit that a rigorous independent audit of models should be conducted before their final acceptance.
	The Review has found that Victoria and South Australia have complied with the Cap, while Queensland and ACT are yet to complete the establishment of their respective Caps. Nevertheless, it is apparent that in Queensland there has been significant growth in storage which will impact on the water available for alternative consumptive and environmental uses. In New South Wales, the Cap has been breached in the Barwon-Darling system, with other valleys being within Cap limits.	<p>We support the Qld Government's intention to use the WAMP process as an equitable way of determining Qld valley caps. In the interim, the impact of any further growth in storages and extractions must be restricted to the group of water users who share access to the specific pool of water on which the growth is dependent.</p> <p>An adverse impact on existing users of other segments of the system must not be allowed. If the effect of growth under the Cap is to shift impacts onto others, then either the Cap mechanism requires urgent revision, or the Government concerned must act decisively to reverse this situation.</p>

	Cap Project Board Position	Comment
<b>Schedule F to the Murray-Darling Basin Agreement</b>	The most important challenge in Cap implementation is to finalise the arrangements under “Schedule F – Cap on Diversions” to the <i>Murray-Darling Basin Agreement</i> . This schedule is the primary tool for defining Cap arrangements especially those concerned with assessing compliance and its consequences.	<p>Please refer to our comments on the <i>Border Rivers Daily Flow Model</i> (IQQM). This appears to be the primary tool identified in Schedule F. We do not accept the reliability of the tool at this stage. It is essential to get it right if adjustments to access are to be based solely on its results.</p> <p>We are also concerned about the methodology for establishing the timeframe within which adjustments must be made when a discrepancy occurs between actual and modeled usage in any given year. If the reaction time is too short, there will be the potential for unnecessary distortions and inequities.</p>
	With the intent of improving the operation of the Cap through the development of fair and meaningful compliance arrangements, the Project Board invites comments on the following modifications to Schedule F which have been recommended by the IAG:	We strongly oppose Clause 8(b) of Schedule F, on the grounds that an alteration to a long term diversion cap should require the approval of the State or States involved after detailed consultation with the affected water users.
	<ul style="list-style-type: none"> <li>Removal of references to end-of-valley flows as a method for Cap compliance.</li> </ul>	We agree that diversions are more easily and accurately measured than end-of-valley flows. However, it is still necessary to be able to quantify these flows in order to be able to demonstrate the level of contribution to downstream flows, The appropriate model should be able to achieve this.
	<ul style="list-style-type: none"> <li>Arrangements for remedial actions in the case of Cap exceedence. The recommendation of the IAG is that States be required “to ensure that cumulative diversions are brought back into balance with the cap”.</li> </ul>	See comments above. We support a consultative approach between agencies and water users in determining appropriate remedial actions and the timeframes within which they should take place.
	<ul style="list-style-type: none"> <li>re-setting the commencement date for accounting for diversions under the Cap to start with the 2000/01 water year.</li> </ul>	This is not relevant to the Border Rivers, since final caps have not yet been determined.

	Cap Project Board Position	Comment
<b>Sustainable Rivers Audit</b>	<p>With the implementation of the Cap nearing completion in most jurisdictions, there is now the opportunity to take the “next step” and to consider the environmental outcomes of the Cap from a whole of Basin perspective. The Project Board supports the introduction of a regular Sustainable Rivers Audit which would cast the Cap as an input to Basin health, rather than an outcome in itself.</p> <p>Whereas the Cap is seen as the first step towards achieving the longer-term objective of the <i>Initiative</i>, a Sustainable Rivers Audit can be viewed as the next step in the process of achieving this objective.</p>	<p>A genuinely independent Sustainable Rivers Audit with balanced environmental, economic and social terms of reference and a robust stakeholder consultation process has our support.</p>

	Cap Project Board Position	Comment
<b>Any Other Issues</b>	<p>Are there any other issues raised in the draft report that you wish to comment upon?</p>	<p>We have outlined our specific situation and responses in our general submission. We reiterate that the Border Rivers is a special case which requires careful consideration to ensure fairness and equity for water users.</p>