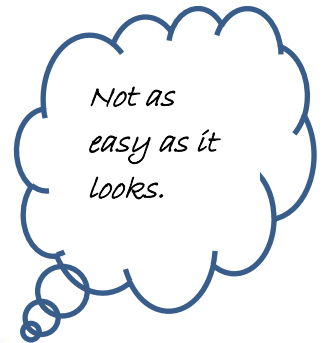


# OTWAY WATER

BOOK 42G

## “The Scope”



## **Disclaimer.**

This book may be of assistance to you, but there is no guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaim all liability from error, loss or other consequence that may arise from relying on any information in this book.

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January 2019

Malcolm Gardiner



[www.stopgroundwatermining.com.au](http://www.stopgroundwatermining.com.au)



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Hi Malcolm

Apologies for the delay.

As outlined previously, it is Barwon Water's responsibility to engage with the local community and seek their ideas and feedback in relation the development of the scope of works and the subsequent remediation and environmental protection plan. SRW will not be undertaking any external engagement activities associated with the s78 notice. It would be inappropriate for SRW to provide the scope of works to members of the local community in this situation. It is suggested you request a copy from Barwon Water's project manager, Jo Lee directly.

I trust this is helpful.

Thanks & kind regards  
Penny

*Email: Dec 19, 2018 at 19:33*

## Time Line of Events of Community Consultation and Engagement.

DATE	Meetings	s 78 Notice	Scope due	Baldwin	Bush	Wong	My crit	Emails
May 2018 See page 10	Workshop 1							
6/6/2018 See page 10	Follow up from Workshop 1 (Geelong)							
See page 10				Reports for	Work	Shop 2		
July 2018 See page 10	Workshop 2							
Aug 2018 See page 11	Workshop 3							
Sep 2018 See page 11				Discussion Paper				
19/10/2018 See pages 12-16							Review Discussion Paper	
11/9/2018		s78 issued						
7/11/2018 See pages 16-17								Baldwin email to BW & reply.
13/11/2018 See page 17	Experts meet							
9/12/2018 See page 18								Scope will be delayed.
13/12/2018 See page 21								Scope must be in.
14/12/2018 See page 22								Scope will be in.
20-12-2018 See page 23			Submitted					
Prepared in Nov 2018 See page 27				Draft included in the Scope.				
See pages 23-26	<b><i>The</i></b>	<b><i>goal</i></b>		<b><i>posts</i></b>		<b><i>have</i></b>		<b><i>Moved.</i></b>

The next two pages also outline the Consultation and Engagement Process but with two distinctly different views.

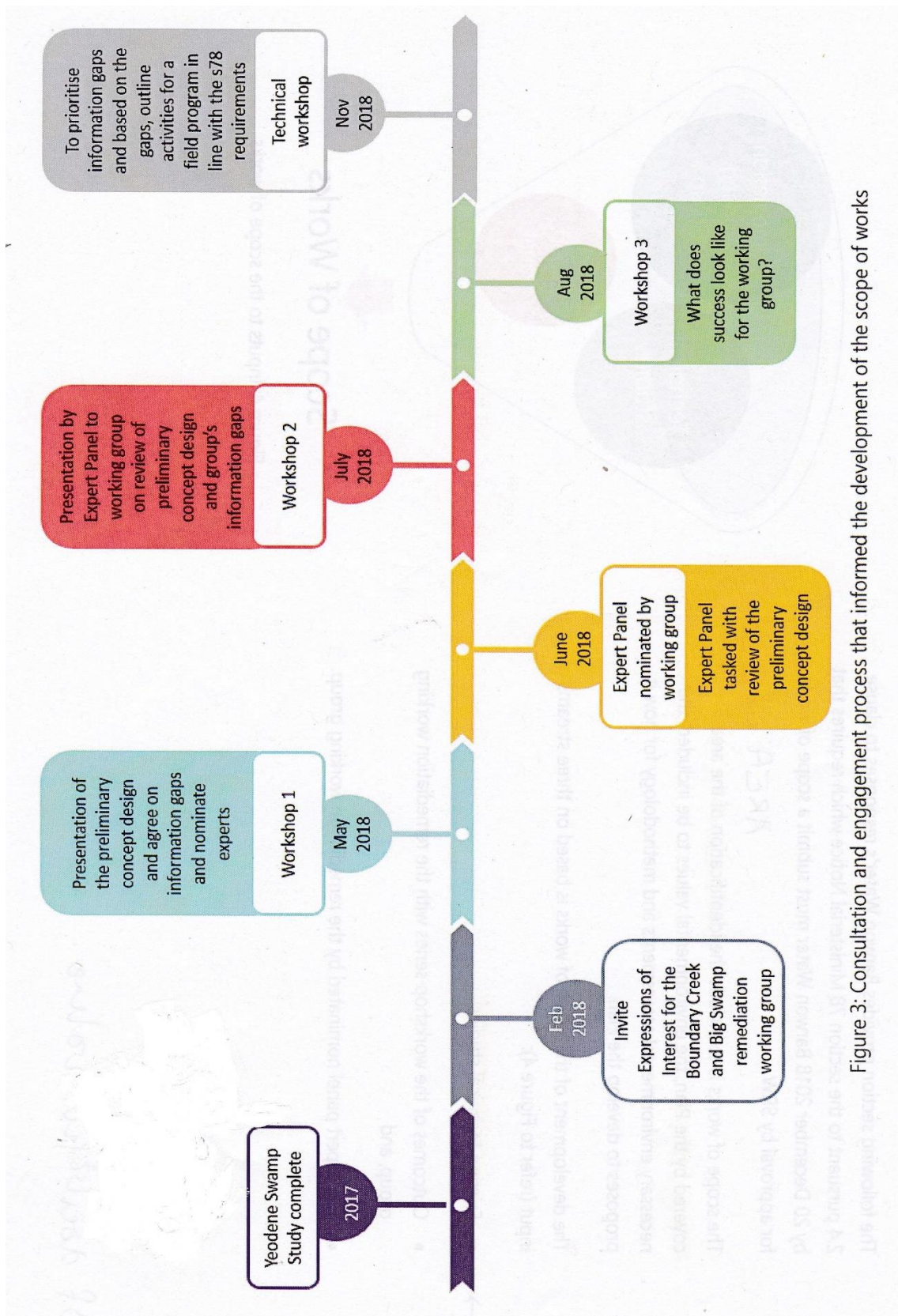


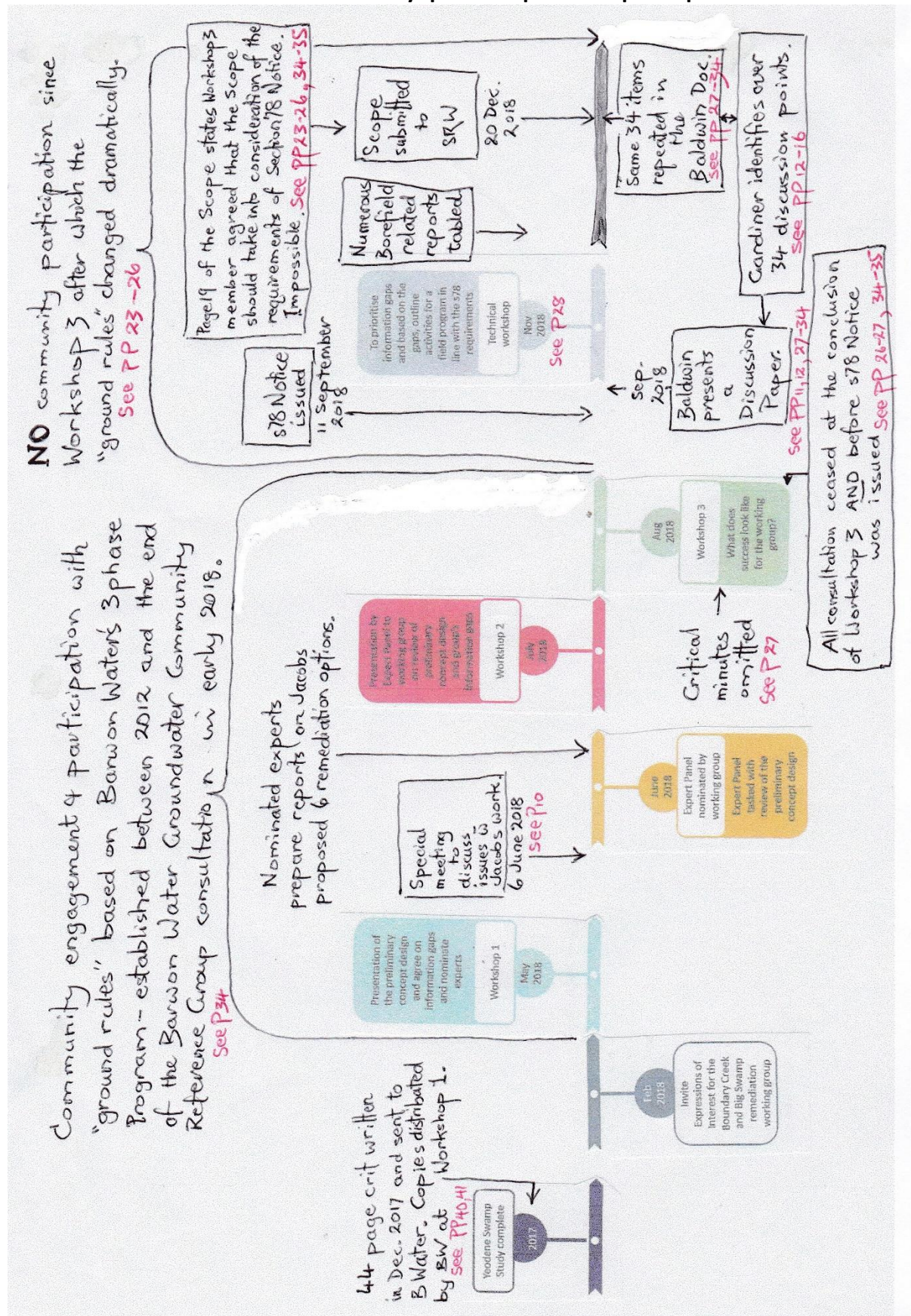
Figure 3: Consultation and engagement process that informed the development of the scope of works

**SOURCE:** Page 21 Barwon Water's Scoping Submission to Southern Rural Water, 20 Dec. 2018.

The view as presented in the Scope.



The view from a community participant's perspective.





## INTRODUCTION.

It was obvious to the local community since the early 1990s, that over extraction of groundwater at the Barwon Downs Borefield was a problem, but a problem chosen to be ignored by the State authorities, perhaps with a hope that it would resolve itself in time. This never happened and as the years progressed impacts became far too extensive to ignore.

In 2012 the preparation for the renewal of the extraction licence began. Through a combination of local community input and a dramatic change in Barwon Water administration it was agreed that early unsustainable extraction procedures and policy had to undergo a dramatic change. Even as late as 9 August 2018 the Minister for Water, the Hon Lisa Neville, stated in a media release “...*the environmental impact from past extractions means there needs to be a change in approach.*” Remediation and rehabilitation of impacts set things off in a new direction. The Water Minister Neville also instigated measures to ensure that no further groundwater extraction would continue to harm any beneficial uses as legislated under State mandates. The intent of the State Labor Party is to improve the health and well being of the receptors of these beneficial uses.

The Otway Water Books have been compiled in an effort to record this journey. Books 42B, 42C, 42D, 42E, 42F and 48 deal with the developments since the tabling of the recommendations made by Barwon Water’s Groundwater Licence Renewal Community Reference Group.

- In December 2017 Book 42 was written reviewing Jacobs’ plans for remediating the Big Swamp and posed numerous critical questions.
- Book 42B contains:
  - copies of documentation presented by Roger Blake, Charlie Kohout, Malcolm Gardiner to a 6 June special meeting in Geelong.
  - Expert reports by Daren Baldwin, Richard Bush and Vanessa Wong covering recommendations made in the Jacobs Yeodene Swamp Study.
  - Water Minister Lisa Neville’s press release outlining the changes that needed to be made, and Barwon Water’s response to this release.
  - A summary of the recommendations made by Barwon Water’s Groundwater Community Reference Group.
- Book 42C deals with:
  - Futile efforts to gain a list of impacts created by the groundwater extraction at the Barwon Downs Borefield. Book 48 also deals with



the reluctance of authorities to provided a list and includes an extensive list of impacts compiled by local community members.

- LAWROC's response to the draft Central Water Strategy review.
- Omission's from Workshop 3 minutes.
- Questions posed regarding the scientific and technical methods used.
- Book 42D deals with the issues and intrigue surrounding the 1 September s78 Notice served on Barwon Water.
- Book 42E attempts to summarise many of the promises made to facilitate a satisfactory result for the remediation attempts.
- Book 42F, not published.
- Book 42G, time lines developments up to the end of December 2018, covering community involvement and the development of, and a review of the Scope.
- Book 48. From the earliest days of groundwater extraction at the Barwon Downs Borefield very little attention has been given to a comprehensive list of risks and dangers associated with pumping. Overseas water management resulting in the creation of desert type conditions, should have been taken into account and measures put in place to avoid any chance of the same thing happening in the Barwon River Catchment and the Otway Ranges. Not only have the authorities driving the exploitation of our water resources failed to take note of history, they have also failed to list any more than two impacts or provide a realistic list of things to be remediated. This Book tells the story of the futile attempts to have the Natural Resource Managers provide a list of impacts. This book contains a comprehensive list local community members have compiled.

## **REMEDIATION WORKSHOP 1, May 2018.**

The first Remediation Workshop meeting was held in Colac in May 2018. Copies of the Jacobs' remediation plan<sup>(1)</sup> and Otway Water Book 42<sup>(2)</sup> were made available at this meeting. Even to date the majority of criticisms made in Book 42 regarding the Jacobs' plan, have never been dealt with. A special meeting with Jacobs and Barwon Water staff was organised for the 6<sup>th</sup> of June to resolve the issues raised in Book 42. (see 6 June Meeting, below).

Workshop 1 also recommended that independent experts be asked to revise Jacobs' remediation plan for the Big Swamp.

## **6 June 2018 Meeting.**

This meeting was prompted by my concerns outlined in Otway Water Book 42. Unfortunately, it became an open forum at which all members of the Workshop could attend and the intent of the meeting lost focus. Another unfortunate aspect was that it appeared few had read Book 42. However, some aspects raised in Book 42 were dealt with and resolved:

- Drainage of the Gerangamete Swamp has little to no relevance or impact on the Big Swamp Wetlands.
- The fire trenches have not altered the drainage regime.
- There are numerous data gaps regarding the knowledge of the swamp within the swamp boundaries and need to be addressed.
- Better use of reference material and use of Government guidelines could be adopted.

(A detailed summary of discussion points of this meeting can be read on page 25, Otway Water Book 42B)

Roger Blake presented an in-depth discussion paper dealing with data gaps in the remediation plan. Charley Kohout had a discussion paper tabled questioning the manner in which the process of developing the remediation plan has been undertaken.

This meeting was recorded and is available on the Barwon Water web site.

## **REMEDIATION WORKSHOP 2, 25 July 2018.**

The reviewing specialists presented their work at this Workshop. Unfortunately, the Jacobs 9 November 2017 plan had not been modified/changed/updated and still contained mis-information and other issues pointed out in Book 42. As a consequence the reviewing specialists based some of their comments on assumptions, speculation, guesswork and suggestion contained within the Jacobs' remediation plan.

Despite this the three specialists' reviews of the 9 November 2017 Remediation Plan pointed out critical and extensive data gaps necessary to be filled if any degree of successful remediation is to be achieved. Many of these data gaps had already been recognised for some time by local community members.

The reviewing expert specialists also warned of the possibility of creating unforeseen hazards and or outcomes when attempting remediation, and that contingencies arrangements must be made. It was discussed how the 9<sup>th</sup> November 2017 Remediation Plan had oversimplified how easy it was to conduct a remediation of the swamp.

### **REMEDICATION WORKSHOP 3, August 2018.**

It was agreed that the independent experts would prepare a plan for remediating Boundary Creek the Big Swamp. Filling the data gaps regarding the rehabilitation of the Big Swamp being the priority.

### **Post Workshop 3.**

When the minutes of Workshop 3 arrived there were some serious omissions.

1. It was not recorded that the reports prepared by SKM/Jacobs leading up to the licence renewal and the remediation of Boundary Creek and the Big Swamp have not been validated or peer reviewed.
2. In the notes headed "Next Steps" one of the steps was that the "experts" would include as part of their working document a broader context and statement of assumptions.
3. Although outside the brief of this working group other impacts within the area of drawdown influence would be outlined. Bearing in mind this Workshop took place pre the s78 Notice of 11 September 2018 and at that stage the brief was to remediate Boundary Creek an the Big Swamp. Other impacts outside this area did not rate a mention.
4. This working document would be based along sound scientific and technical principles overcoming any shortcomings as outlined in Charley Kohout's concerns.

The Section 78 Notice was not served until 11 September 2018. Workshop 3 did not include any discussion regarding this Notice. The community members were totally unaware that any such thing was to follow.

### **September 2018 Darren Baldwin's Discussion Paper.**

On behalf of the three independent experts Darren was charged with the task of preparing a Discussion Paper on the remediation of Boundary Creek and the



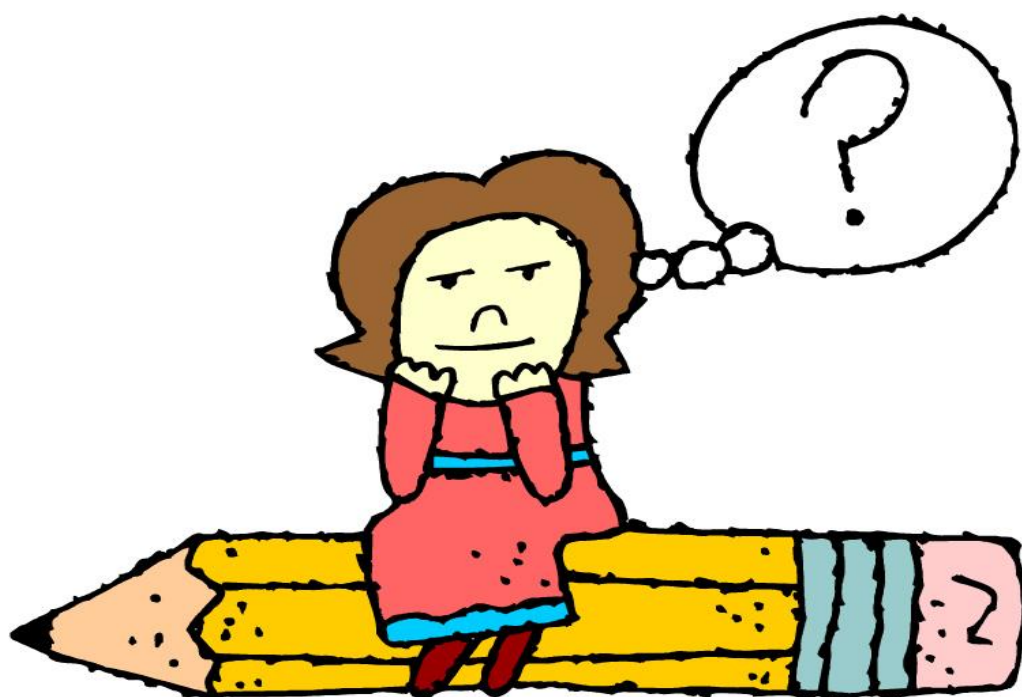
Big Swamp. The paper was distributed in September. When this arrived I started a review of the Discussion Paper (see 19 October Review below).

### **11 September 2018 the s78 Notice Issued.**

Notified by email 5 October 2018 how to access the s78 Notice.

### **19 October 2018 Review of Darren Baldwin's Proposal.**

The review of Darren's Discussion Paper was sent off by email with 34 sections underlined in red indicating a problem with the point being made. The Email was sent to 19 members of the Remediation Working Group, including Darren.



The pdf included the following three pages with more queries..

18/10/2018

Darren Baldwin's Paper

Some Comments so: ~~★~~ September 2018

"Discuss" Paper: List & Prioritising research Qs to address the on-going management of Ydene B Swamp & Birk."

★ The <sup>majority</sup> ~~bulk~~ of the Paper, especially the content of pp 9-14 looks really good.

① There is a lot (red underlined) that indicates  
a) the statement is wrong, OR  
b) is poorly researched, OR  
c) needs clarification, OR  
d) available, and other references, if used, would alleviate most of these red underlines.

② The continued persistence to continually use Jacobs's work/studies as credible when it has not been validated or peer reviewed, <sup>(the work)</sup> creates huge levels of suspicion that the process will <sup>not</sup> succeed.

③ Local knowledge should not be dismissed off handely as it is.

cont.

④ The absence of any comment regarding the Artificial Supp Flows released down B/Crk is of concern.

⑤ A question that has been asked for years not covered here is "What has been the impact on the Big Swamp by lowering the hydraulic head of the LTA from metres above the swamp to metres below?"

⑥ And, the related question is "What was the pre gnd extract<sup>n</sup> (1980) level of this head in relation to the B/Swamp?"

⑦ And, "Would B/Crk have dried up losing its baseline summer flows, despite climate change, IF groundwater extract<sup>n</sup> had not taken place?"

⑧ It was my understanding that this "Paper" was to include the following



cont.

- (8) a) A list of impacts that are known to exist within the area of draw down influence from the B/Downs Borefield.
- b) That the "context" of these impacts is noted and included in the paper even if only as a comment on the BROADER context.
- c) That the paper be based along sound scientific & technical principles.

(Sent 19/10/2018 as pdf in hand written copy & underlined (in RED) things wrong in Darren's report.)

Darren's Discussion Paper was included in the pdf with sections underlined in red indicating that:

1. The statement is wrong, or
2. Is poorly research, or
3. Needs clarification, or

4. If references that are readily available were used, the red lining would have been reduced dramatically.

There were 34 red under-linings. It was anticipated that these things would be discussed/dealt with in due course, most likely at Workshop 4, but preferably earlier. No Workshop 4, and no discourse has taken place regarding these 34 items.

### **7 November Emails between Darren and Jo Lee.**

A workshop was scheduled to take place between the experts at the Geelong office of Barwon Water on the 13 November 2018.

On 7 Nov 2018, at 9:10 am, Jo Lee <Joanna.Lee@barwonwater.vic.gov.au> wrote:

Morning Darren,

Sorry for the late response – it was a public holiday down here yesterday.

Yes the workshop is proceeding as planned for the 13<sup>th</sup> November at our Barwon Water office in Geelong starting at 10am.

I will send out an agenda towards the end of the week, if anyone has anything they wish to raise at the workshop please let me know.

Darren replied with this email.

Dear Jo,

Mal Gardiner raised three additional questions that should be included in our discussion of research priorities next week.

These are

1. What has been the impact on the Big Swamp of lowering the hydraulic head of the LTA from metres above the swamp to metres below?
2. What was the pre-groundwater extraction levels of this head in relation to Big Swamp?
3. Would Boundary Creek have dried up, losing its summer base flows despite climate change, if groundwater extraction had not taken place?

Regards

Darren

From over 34 queries, corrections needed, omissions and mistakes in regard to Darren's Discussion Paper, it is odd that these are the only 3 concerns raised to this day.

### **The Three Questions.**

The three question raised at the 13 November technical experts meeting, has been given a Low Priority rating in the Baldwin November 2018 report, inserted as Appendix C in the Scope document.

The answers to these questions would take very little work as the data is readily available. The reason these questions have been asked again lies in the fact these questions have been asked numerous times since 2013 at the Barwon Downs Groundwater Community Reference Group meetings, and the answers have never been put in writing.

Question One Answer:

The result is that the Big Swamp no longer is a baseflow water gaining system from the Lower Tertiary Aquifers during extended long periods of no rainfall.

Question Two Answer:

Before the 1982-83 groundwater extractions the pressure head from the Lower Tertiary Aquifers was metres above the Big Swamp surface level.

Question Three Answer:

Boundary Creek in the Big Swamp vicinity would not have stopped flowing.

These may be regarded as Low Priority items as far as the technical experts are concerned but from a community's perspective it would be most gratifying to have Barwon Water and Jacobs acknowledge their data and confirm such findings. It is most baffling why there is so much reluctance to provide definitive statements to these questions.

### **13 November Experts Meet.**

There has been little feed back to the Remediation Working Group regarding this 13 November meeting and definitely no chance for any discussion. The feedback came in this 7 December email.



## 7 December 2018. Remediation Working Group Meeting Cancelled.

**Subject:** Boundary Creek remediation working group meeting CANCELLED

*Email Friday 7 December 2018 11:06AM*

Good morning working group members,

We would like to reschedule next week's meeting to ensure your nominated experts (Vanessa, Darren and Richard) can thoroughly review and provide recommendations on the detail of the field program.

We know you are keen to see a good level of detail for the field program and unfortunately we haven't been able to progress this as far as we would like to get it reviewed by the experts and share it with you next week.

We also need to engage with Southern Rural Water's appointed expert reviewer as per the section 78 notice requirements.

Southern Rural Water are aware that we will be submitting the scope of works later than set out in the section 78 notice and they have confirmed they are comfortable with our approach to ensure the scope of works is thoroughly developed and informed by the right expertise, and shared with the community ahead of submission.

We are planning on rescheduling the working group meeting to mid to late February 2019. We will be in touch towards the end of January with a revised date for our meeting.

Hope everyone has a safe and happy festive season and if you have any questions, please get in touch.

Thanks,

Jo

Joanna Lee

Coordinator Water Resource Planning

**Barwon Water**

T: [03 5226 2471](tel:0352262471) | M: [0407 647 168](tel:0407647168)

## 9 December 2018, Email to Southern Rural Water.

The postponement of the Scope into SRW as per the s78 Notice, prompted writing to SRW with a please explain. Not to mention the complete “cutting out” of local participation in the Scope production process.

**From:** Mal Gardiner [mailto:otwaywater@yahoo.com.au]  
**Sent:** Sunday, 9 December 2018 11:46 AM  
**To:** Penny Winbanks <PennyW@srw.com.au>  
**Cc:** Tricia Jukes <triciajukes@me.com>; LAWROC LAWROC <lawroc@bigpond.com>; Belinda Gardiner <belandstu@gmail.com>; Andrew McLennan <andrewkmclennan@gmail.com>; Stuart Hart <shart@gotalk.net.au>; Neil Longmore <nlongmore@netspace.net.au>; Agrifoodconsulting Com Info <info@agrifoodconsulting.com.au>; Val Warner <vallew36@gmail.com>; Gordon Hans <gordon.hans@bigpond.com>; Charley Kohout <hoot125c@gmail.com>  
**Subject:** s78 Notice

Hello Penny,

Can you tell me what is happening regarding the postponement of the 20th December 2018 scope due date that Barwon Water had been given notice of back on 11 September 2018?

This seems quite amazing considering...

1. There has been NO community consultation since the Notice was given. The community wishes to be actively involved in the process not just have things "...shared with the community."
2. A special meeting was convened by Barwon Water on 13 November, to discuss the scope, with who knows who.
3. Given the timeline suggested by Barwon Water it will be at least another two to three months before the next community workshop meeting.
4. When the scope will be presented is anyone's guess. With the prospect of at least 4 months past the due date given in the Notice, this seems quite incredible.
5. The community workshop must be given the opportunity to have input to the development of the scope.
6. The course that Barwon Water is taking was set before the Notice was given and changes the way the remediation has to be considered. No chance has been given to the community to discuss this.
7. Important omissions from the last community workshop still have not been dealt with.
8. Without community input the development of the scope has a high chance of not being "...thoroughly developed..."

It would appear that there has been a change in direction back to the old way whereby the authorities set the direction to be taken; develop the plan; begin initial stages of the implementation and then "share" it with the community - after the fact.

It would also appear that the delay to allow community input has little substance and or justification. Four months since the Notice was given would appear to the casual observer, to be ample time to develop a scope.

Can you tell me who the SRW expert reviewer is?

Can representatives from the LAWROC Landcare Group "engage" with Southern Raral Water's expert reviewer?

Answers to these questions and a detailed explanation how the delay to the submitting of the scope came about, would be most welcome.

Malcolm.

Sent from Yahoo Mail for iPad

### 13 December 2018, Reply From Southern Rural Water.

Apparently SRW was unaware of any postponement prompting this reply.

Dear Malcolm,

Email Dec 13, 2018 at 08:47

Thanks for your email in respect to the s78 notice currently imposed on Barwon Water. In response to your questions raised please find the following.

- SRW have not received a request for extension from Barwon Water and as such expect a draft scope of works to be submitted on 20 December 2018 as required under the s78 notice.
- SRW has appointed the Independent Technical Review Panel (TRP) who will be involved in both the review of deliverables under the s78 notice and the review of the technical reports and submissions associated with the application to renew their groundwater licence.
- The members of the TRP are; Assoc. Prof. Peter Dahlhaus, Hugh Middlemis and Jeff Taylor.
- Under the requirements of the s78 notice it is the responsibility of Barwon Water to engage with the local community to seek their ideas and feedback to inform the development of their scope of works and subsequent plan. Once the scope of works has been submitted to SRW, the role of SRW's expert reviewers (TRP) is to provide independent assessment and advice to SRW on the suitability of the scope of works to address the remediation issues required. No direct engagement is planned between the appointed TRP and stakeholders or community. SRW not be undertaking any external engagement activities associated with the s78 notice.

I hope this satisfies your current queries. Please contact me further if you require any further information.

Regards,

Penny



## 14 December, Barwon Water Will Have the Scope in on Time.

On Friday, December 14, 2018, 15:20, Jo Lee <Joanna.Lee@barwonwater.vic.gov.au> wrote:

Dear working group members,

Following our email to you last week, we have had subsequent discussions with Southern Rural Water about our approach to submitting our scope of works document.

As a result, Barwon Water will be submitting its scope of works document to Southern Rural Water on December 20, 2018, for review by their appointed expert reviewer.

The scope of works document has been developed using information from the three Boundary Creek remediation working group meetings and the technical workshop held in November, including your nominated expert panel.

Further to this, the scope of works document will include additional engagement steps in January and February, including further engagement with the:

- Southern Rural Water appointed expert panel, and
- Boundary Creek remediation working group nominated expert panel.

The scope of works will be refined based on outcomes from these additional engagement steps.

This approach meets the requirements of the Section 78 notice and ensures your nominated experts have an opportunity to review the scope of works.

Following the independent assessment of the scope of works, Barwon Water will provide an update to the Boundary Creek remediation working group and outline the next steps in the Section 78 process. We anticipate this to occur in late February.

We will be in touch towards the end of January with a revised date for our meeting.

Should you have any questions or wish to discuss, please get in touch with me either by email or phone on [0407 647 168](tel:0407647168).

Thanks,

Jo

Joanna Lee

Coordinator Water Resource Planning

## **20 December 2018 the Scope was Submitted.**

As per the s78 Notice directive, the Scope for works to be undertaken was submitted to Southern Rural Water on time.

## **The Goal Posts Have Moved.**

On 10 December notice was sent out to Workshop members that Barwon Water had submitted its renewal application for a licence to extract groundwater at the Barwon Downs Borefield. Part of this notification included Barwon Water's "Response to Community Reference Group recommendations report." At the time that the Community Reference Group prepared and made its recommendations to the Barwon Water Board the Section 78 Notice had not been issued. When preparing these recommendations Barwon Water had made commitments to a three phased approach of remediation, testing and operation.<sup>(6)</sup> The three phases included the remediation of impacts caused, namely Boundary Creek; no pumping other than for maintenance and in emergency situations until remediation was complete and an expanded monitoring program with the aim of accurately determining what a sustainable extraction rate would be. The Nationally accepted definition of sustainability was to be used replacing the definition used up to this time.

As a consequence of the s78 Notice Barwon Water is no longer proposing a three phased approach for the Barwon Downs Borefield. The "goal posts had moved." The next 3 pages describe the changes. These pages are the first 3 pages of a ten page document.<sup>(6)</sup>

# Barwon Water response to Community Reference Group recommendations report

PP 1-10.

**NOTE:** A complete copy of the Barwon Downs Groundwater Community Reference Group recommendations can be found in Otway Water Book 46.

Table 1 provides Barwon Water's response to each Community Reference Group (CRG) comment or recommendation in regards to the Barwon Downs licence application.

This recommendations report was provided to the Barwon Water Board at the May 2018 Board meeting and was carefully considered.

At the time of this recommendation report prepared by the CRG, the Section 78 Notice had not been issued. Barwon Water had previously made commitments to a three phased approach – of remediation, testing and operation.

The CRG's response in the recommendations below references this phased approach. Barwon Water is no longer proposing a three phased approach for the Barwon Downs borefield which has meant that not all comments in the CRG's recommendations report are in context. Subsequently, not all recommendations can be delivered.

This three phased approach has now been superseded by a two phased approach in line with the Section 78 Notice. That said, there continues to be more alignment than divergence in outcomes for the next licencing period.

**Table 1: Barwon Water responses to CRG recommendations report**

Section	CRG COMMENT / Recommendation	Barwon Water Response
<b>Summary</b>	1. The CRG supports the renewal of Barwon Water's licence.	Barwon Water (BW) are pleased that the CRG supports the renewal of the licence.
	2. The CRG supports the approach taken by Barwon Water to a 3-phase implementation of any future production pumping at the borefield.	<p>BW is no longer proposing a three phased approach to the operation of the borefield. The inclusion of a Section 78 (S78) Ministerial Notice requires that BW must not extract from the works for any purpose other than maintenance or emergency access until this Notice is rescinded.</p> <p>The S78 Notice has superseded the three phased approach as previously communicated to the CRG. BW suggests that the intent of the community's desire for a conservative approach is now incorporated within both the S78 Notice and our commitments to the community.</p>
	3. The CRG believes that all test pumping and production pumping (BW's phases 2 and 3) should be suspended for the period of	<p>As identified above, the S78 places requirements on BW which must be met prior to pumping commencing.</p> <p>BW is committed to an approach which allows our stakeholders and the community to monitor how effective remediation is, build confidence and</p>



Section	CRG COMMENT / Recommendation	Barwon Water Response
	the proposed licence renewal.	<p>knowledge in the data being collected throughout the period of the next licence.</p> <p>As stated above, BW is no longer proposing a three phased approach to the operation of the borefield. The operation will effectively be two phases, the S78, (no pumping) and the full volumetric entitlements.</p>
	4. The CRG recommends that the licence volume for the licence renewal period be restricted to a maximum of 100 ML per year for maintenance purposes only.	The S78 Notice restricts use of the borefield to maintenance or emergency access only until the Notice is rescinded.
	5. The CRG wishes to ensure that if phase 2 and/or 3 pumping is permitted in the proposed licence period, strong licence conditions as set out in in this report be attached to any such pumping.	BW supports the need for strong licence conditions associated with operation of the borefield.
	6. The CRG hopes that any such strong conditions would endure beyond any licence renewal, so that, if the implementation of phases 2 and/or 3 were to take more than 15 years, certainty can be ensured without the need for such extensive and costly interventions at subsequent licence renewal intervals.	Remediation of Big Swamp and Boundary Creek will be governed by the S78 Notice. There is no timeframe on this Notice. If the licence were to expire before the Notice is rescinded, rolling over licence conditions would need to be taken into account for the following licence period.
<b>1.1 The starting point</b>	Overview of the current licence and the failure from the CRG's perspective	<p>BW acknowledges the frustrations that the community has had with the past licence.</p> <p>The lessons learned have informed the approach and structure of the proposed licence to avoid these same problems moving forward.</p>

What is important to note is that there has been no effective community input into developments since August 2018. The ground rules have changed dramatically and a multitude of developments made in this period with no community involvement.

## **Community Engagement and Participation.**

One of the enlightening aspects of the development of the Remediation Plan has been the high degree of community involvement. Up until Workshop 3 this involvement has engendered a confidence that the wishes, suggestions and concerns of the community participants were being considered seriously and having a direct influence on outcomes. Unfortunately, since Workshop 3 there has been a marked difference. Confidence in the process has plummeted.

1. Since August 2018 Barwon Water has continued developments with a complete disregard to community involvement. Four months of development and dramatic change.
2. The issuing of the Section 78 Notice in early September 2018 changed the ground rules significantly and local input has not been given any chance to be involved with directions taken following these changes.
  - a. Development of the Scope with s78 in mind.
  - b. Inclusion of State Government policy, intent and directives.
  - c. Area of impact.
  - d. List of impacts.
3. Omissions from Workshop 3 minutes have still not been verified and corrected.
4. Responding to over 34 queries, corrections, omissions and mistakes in regard to Darren's September 2018 Discussion Paper with comment on 3, is somewhat short of ideal. This is especially so when they have carried over unanswered into an Appendix of the Scope dated 20 December 2018.
5. The attempt by Barwon Water to postpone the submission of the Scope until at least March 2019 appeared to be a return to the "bad old days" when authorities did what they thought was best for the community without any community consultation.

**The Scope 20 December 2018<sup>(7)</sup>** sent to Southern Rural Water.

### **Appendix C.**

Despite the comments below, the Baldwin December report<sup>(8)</sup> tabled as Appendix C found in the Scope<sup>(7)</sup> and prepared on behalf of the experts, Baldwin, Bush & Wong, contains and sets out procedures designed to fill many of the missing data gaps regarding Boundary Creek and the Big Swamp. At this stage in the "remediation" process a very limited area of investigation was being looked at considering the vast area that has been impacted by groundwater extraction from the Barwon Downs Borefield. It must be kept in mind that the groundwork and background leading up to the experts involvement centred around a lack of confidence in Jacobs work and pre-dated the considerable

changes that came about once the 11 September Section 78 Notice was declared. Other than local input, no State authority or consultant would or could provide a list of impacts other than impacts on Boundary Creek and the Big Swamp. The “remediation” and three Phase work proposed by Barwon Water was only dealing with Boundary Creek and the Big Swamp. Section 78 changed the focus dramatically but at the same time local involvement dropped to zero over a four month period.

I was particularly interested in Appendix C as it was the updated version of the September 2018 Discussion Paper. The September version contained a multitude of queries that were never followed up by anyone. The December version, included as Appendix C in the December Scope submission, contained the very same queries, corrections needed, omissions and mistakes. However, the December version contained significant additions.

1. As the Executive Summary of the Scope<sup>(7)</sup> states “*In addition, the Boundary creek and Big Swamp remediation working group has also benefitted from the advice of three independent technical experts who were nominated to support them in their discussions.*”

This was indeed the case up to the August Workshop 3 but in the ensuing 4 months no remediation working group discussions took place. The Scope was submitted without any further community input.

2. The 13 November 2018 meeting in Geelong was conducted with
  - a. The three nominated experts, Prof. Darren Baldwin, Prof. Richard Bush and Dr. Vanessa Wong,
  - b. And the authors of the remediation plan for the Big Swamp,<sup>(1)</sup> Lousie Lennan (Jacobs), Nic Unland Jacobs), and A/Prof John Webb (La Trobe University).

This meeting took place 3 months after the last of any remediation working group discussion. Considering that the Section 78 Notice had been served 2 months earlier, how the nominated experts could be seen to be representing the working group is anyone’s guess.

3. In fact there appears to have been a dramatic shift by the nominated experts biased away from what the local community desires.
  - a. There has always been perception that Barwon Water prefers to contain any remediation work within the area of drawdown influence from the borefield, restricted to the

Boundary Creek and Big Swamp precinct. However, ever since remediation was mooted as a possibility in 2017, local input has called for a comprehensive list of impacts within this drawdown influence zone. Not in one very small section of impact.

- b. Given but a few of the quotes from various Government sources highlights that being so restrictive does not in fact reflect what the Section 78 Notice intends should happen.

*“The Andrew’s Labor Government is protecting the health of Otway waterways by ensuring Barwon Water repair the environmental impacts of past groundwater extractions in the region.”* (Media release, Hon Lisa Neville, 9 August 2018.)

*“There will be community input into the remediation plan that will also ensure the full extent of environmental impact is identified and that they are addressed by the remediation plan.”* (Hon. Lisa Neville ref: ADQ001505. 9 October 2018).  
Not done.

*“The s78 notice issued by Southern Rural Water defines the area as Boundary Creek, Big Swamp and the surrounding environment with directions for Barwon Water to further define and describe the area as part of the “scope and works” document.”* (Barwon Water’s response to s78 Notice). If done, done without working group input.

4. The dumbing down continues.

- a. In the Scope Executive Summary there can be no dispute at Barwon Water’s interpretation of what “... *the surrounding environment* ...” means - the environment restricted to the Boundary Creek and Big Swamp immediate vicinity.

*“... to develop and implement a Remediation Plan for the Boundary Creek and Big Swamp environments.”*

- b. The nominated expert’s report, prepared by Baldwin<sup>(8)</sup> clearly follows the same line when defining the term remediation. This report discusses Remediation, Rehabilitation and Restoration as defined by Rutherford et al, 2000 at p.16. The definition used by Rutherford of, *“remediation recognises that the stream has changed so much that the original condition is no longer relevant, and aims for some entirely*



*new condition.*” is taken as what the s78 Notice means by remediation and then links this to another s78 Notice term, “practicable.”

What in fact this does is degrade the wishes and aspirations of both the Barwon Downs Groundwater Community Reference Group, that started in 2013, and the community remediation working group’s wishes. These wishes of the community are clearly expressed in the Scope’s Background and context section.

*“Throughout our consultation process for the renewal of the Barwon Downs licence, the community made it clear that they placed a high value on rehabilitating Boundary Creek and Big Swamp to improve stream flow and water quality, with the ultimate goal of returning the creek to a healthy, thriving ecosystem.”* It could not be clearer what the community wants. The dumbing down of these wishes by the nominated experts cannot be seen as a form of support as described in point 1 above.

- c. Adopting the definition of remediation that Rutherford puts forward then justifies further dumbing down of the situation. *“Consequently, questions that relate to previous condition or impact of previous actions were ranked lower than research questions that address current condition and further trajectories.”* Unfortunately, the bulk of the research that Jacobs uses as its base only goes back to 2014. Continuing to ignore or downplay the historical significance of the groundwater extraction impact will only ensure further “mishaps.”
- d. The way in which the nominated experts prefer to interpret what the s78 Notice is most interesting and once again the preference is towards dumbing down by restricting the remediation to a very confined area of the total area of groundwater extraction drawdown influence. *“The wording of the Section 78 Notice is slightly ambiguous when it comes to the spatial extent to be covered by the Plan. On one hand “..... the surrounding environment that has been impacted by groundwater pumping at Barwon Downs could be interpreted to mean all groundwater-dependent ecosystems in the region that have been impacted by pumping.”* Once again one returns to the

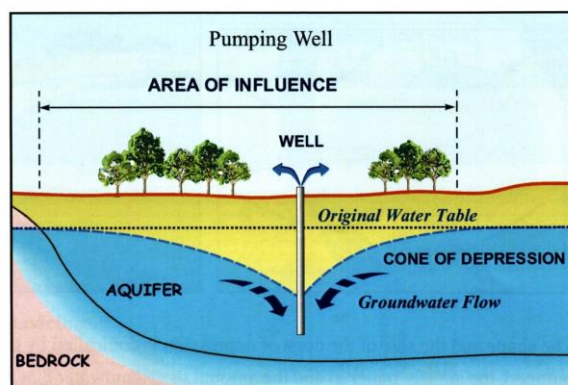
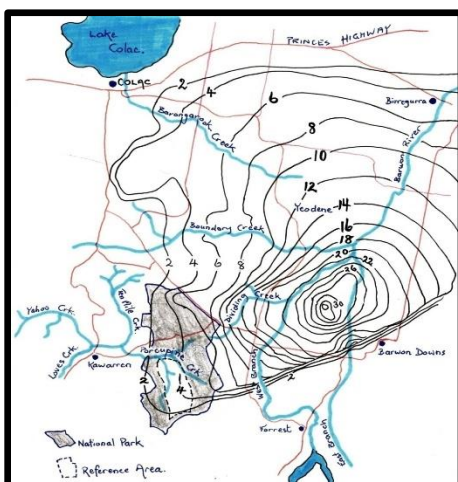
question of what is to be remediated? Is it just Groundwater Dependent Ecosystems or does the remediation cover all impacts? Also, one returns to the Andrew Labor State Government's pledge "...*ensuring Barwon Water repair the environmental impacts of past groundwater extractions in the region.*" (Hon Lisa Neville 9 August 2018.)

The other side of the coin regarding the ambiguity of the s78 Notice that the nominated experts believe and what is to be regarded as the spatial extent of the remediation, continues...

*"Alternatively, because Boundary Creek and Big Swamp are the only geographical locations that are named implies that the scope of work needs to be restricted to the immediate vicinity in, and around Boundary Creek."*

It would be most interesting to know what the community working group members would have decided were they given an opportunity to have input into the developments since August – all groundwater extraction impacts or impacts restricted to Boundary Creek and the Big Swamp.

With nominate4d experts conducting no public/community consultation; having limited understanding of the extent of the drawdown region of influence; limited knowledge of impacts from groundwater extraction within the area of drawdown influence and with all of these things in mind it is difficult to see how, since August 2018, the nominated experts are supporting the remediation working group with its discussions.



The impact zone extends out to the point of zero influence.

Drawdown area early 2000s.

5. Since 2013 the question “Is the Big Swamp directly connected to the Lower Tertiary Aquifers?” has been asked, and on many occasions at the Barwon Water Groundwater Community Reference Group (CRG) meetings and also at the three Remediation Workshop Meetings.

Jacobs’ documentation states that the saturated peat sediments in the Big Swamp are “...hydrologically separated from the underlying regional aquifer (LTA) by the aquitard.” (Page 4 of the Yeodene Swamp Study<sup>(1)</sup>) but failed to provide the data to support this definitive statement.

The November 2018 Final copy of this same report<sup>(13)</sup> states “Saturated peat sediments in Yeodene Swamp are hydraulically separated from the underlying regional aquifer(LTA) by the aquitard.”

Baldwin’s prioritising Research Questions, Section 3.2, page 19, of his November 2018 document<sup>(8)</sup> Appendix C in the Scope, states this...

“Question 4: Is there a hydraulic connection between Big Swamp and the Lower Tertiary Aquifer?

*Priority: Low*

*Rationale: Addressing this question offers no additional benefit for the future remediation of Big Swamp.”*

This is not very supportive of communities wishes for numerous reasons, but the “cruncher” can be found on page 6, thirteen pages earlier in the very same document.

“Question: 4 Is there a hydraulic connection between Big Swamp and the Lower Tertiary Aquifer (LTA)?”

Most of page 7 is taken up with discussion, but these points are worth noting.

“Understanding where the LTA intersects Boundary Creek is **critical** in understanding the hydrology and hydrogeology of the region, which in turn is **critical** in assessing potential management interventions.” Community members have been stating this very same sentiment for years. Low priority???

Also, Part 2.5 of Section 78 Notice calls for an understanding of the hydrogeology and hydrology of the area as part of the Remediation Plan. Are answers to this connection “critical”? Most definitely.

Baldwin also states “**No detailed drilling has been undertaken within the swamp to determine the substrate under Big Swamp.**” November 2018.<sup>(8)</sup>

The guess work and consequent comments surrounding the stratification under the Big Swamp needs to be tested. The only way to do this is to have the cross sectional drilling conducted throughout the swamp and extended down until the LTA is intersected. Then an accurate stratigraphical cross section of the Big Swamp can be draw up with any confidence.

As already stated there are numerous other things that need to be clarified and or confirmed with the nominated experts’ November 2018 report.

Two such examples are:

- “**Acidification events have occurred over the last several decades in Reach 3 and the Barwon River.**” Where is the data supporting this claim?
- “**An initial assessment is that vegetation community structure in the swamp is highly variable over time – and had been strongly influenced by human intervention even prior to the shifts in hydrology starting in the 1980s.**” Ditto, where is the data?
- “**Big Swamp is a highly modified peat bog on Boundary Creek. In the past the Swamp was drained for agricultural purposes.**”

Where did these statements originate and what data is there to confirm the statements?

After speaking with Jim Swan a 75 year old local, who has intimate knowledge of the Big Swamp, he indicated what several other locals have experienced and believe to be the case, that these statements are questionable (see Appendix One, page 43).

6. The statement “**There are anecdotal reports of platypus previously inhabiting Boundary Creek.**” certainly creates some ire. When a number of local residents have personal experience of observing platypus in various reaches of Boundary Creek the use of the term anecdotal and the inference this term makes is not taken very well. Appendix Two highlights why the word “anecdotal” conjures up negative reaction to this statement.
7. Perhaps the most offensive part of the nominated experts document is the inference and straight out statement as fact, that Boundary Creek has never been a perennial creek.



*“... almost perennial source of stock and domestic water...being near permanent...”*

## The Scope Document itself.

### A. Nominated Experts.

The filling of the information gaps and the manner in which this is to be achieved appears to rely heavily on the nominated experts' documentation as presented by Baldwin (November 2018). The gap filling that the experts have recommended are excellent but unfortunately when moving from their area of expertise and relying on Jacob's work and influence, problems occur. Jacobs' work has not been validated or peer reviewed.

Also page 15 of the Scope states *“The role of the expert panel is to provide independent advice on various aspects of the remediation concept as needed by the working group.”* Section 78 Notice has been issued; the “ground rules” altered; Baldwin's November 2018 document written; the Scope prepared and the Scope submitted without any working group input.

### B. Local Community Involvement.

Since the conclusion of Workshop 3 a compounding problem has been community input, participation and meaningful dialogue ceased. For the Scope, page 49, to concluded with this statement *“Barwon Water is committed to working closely with the local community, ..... in the years ahead...”* rings hollow.

This is especially so when the Scope page 14, makes these statements regarding the role of the remediation work group :

- Provide valuable community/local knowledge to help inform and develop a remediation plan;
  - Actively engage and provide constructive advice throughout the consultation process;
  - Represent community and stakeholder views and provide feedback in relation to the existing concept design by Jacobs and Latrobe University;
- and the working group had not met since the s78 Notice was issued.

### C. Workshop 3 Minutes, and the Timing of the Section 78 Notice.

Workshop 3 was held in August 2018 and as part of the technical experts contribution as per this statement on page 18 of the Scope,

*“The expert panel nominated by the working group, consultants Jacobs and Latrobe University (hereafter the “technical experts”) also provided a*

*consolidated list of success measures which included:*” among other things the following...

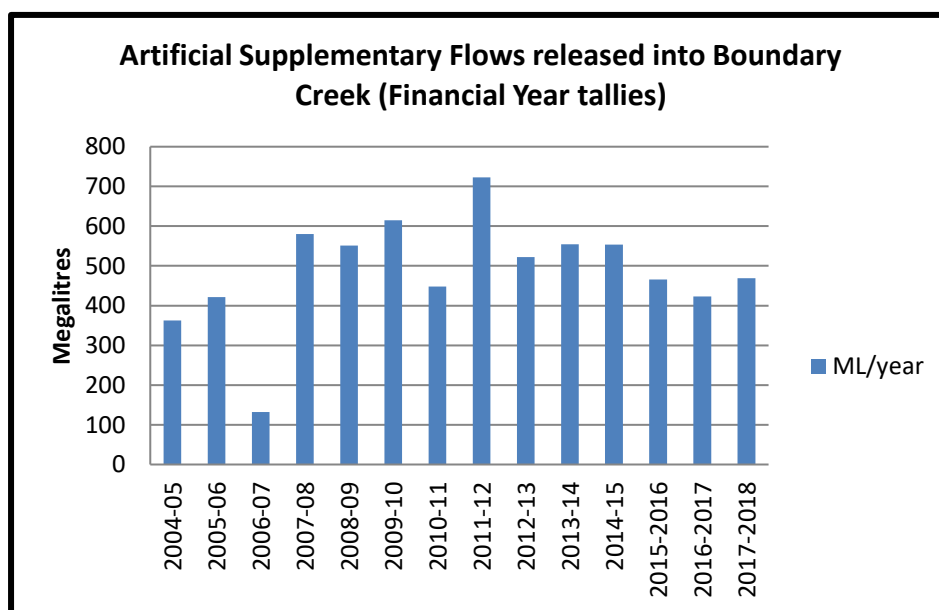
*“Scope a field program activities taking into consideration the requirements of the section 78 Notice, constraints and timeframes.”* (Page 19 the Scope).

Interesting to say the least, and somewhat undermining of the confidence in the process, as the s78 Notice was issued weeks after the conclusion of Workshop 3.

***Is there a stage when one throws their hands in the air and utters, what is the use of trying to achieve some honesty, integrity and truth? And, can we trust our State Government Authorities to do any better?***

#### **D. Artificial Supplementary Flows.**

Going back to at least 2004 during low flows of less than 1 ML/day or no flows, a condition of the 2004 extraction licence for the Barwon Downs Borefield stipulates that 2 ML/day has to be released down Boundary Creek. Beside breakdowns this has been religiously complied with.



SOURCE:  
Barwon Water Yearly reports to Southern Rural Water.

However, for various reasons

this water does not accomplish what it was designed to do. The water does not get past the Big Swamp, disappearing into the ground. But, what it does do is compensate for the previous natural overflow from the Lower Tertiary Aquifers in the Damplands. From the pressure heads established pre groundwater pumping it is known that the highest release point of this groundwater to the surface is somewhere above the elevation of the Big Swamp. This overflow from the LTAs maintained a stable water level in the Big Swamp and where ever it surfaced, presumably somewhere in the Damplands. Local identities maintain

that Reach 1 of Boundary Creek would naturally dry up leaving pools and in some situations very low spring activity. Somewhere in Reach 2 in the Damplands, the LTAs would overflow even in the worst of droughts and the Big Swamp maintained its moisture levels.

What the Supplementary Flows being released from the Otway to Colac Pipeline are doing is providing an artificial flow that has several impacts.

Namely:

1. The artificial flows mask the pre groundwater extraction natural variation on surface flows, springs and soaks, especially in the upper reaches of Boundary Creek. The extraction of groundwater lowering the water table upsets this natural order of baseflows into these features.
2. In reaches where there would be a natural variation of flows and spring activity, these artificial flows have maintained a false situation of little variation in the drier periods of the year.
3. Any water balance activities and modelling scenarios are made extremely difficult to claim any form of credibility, especially when little recognition of the impact from these flows is given in these activities (see comments below – Scope & Artificial Supplementary Flows).
4. Observation bore activity in the area becomes skewed. Pre-groundwater extraction Boundary Creek was a perennial creek. Since extraction the days of no flow situations has increased from irregular to many months of no flow. The Artificial Supplementary Flows disappear into the ground skewing observation bore readings.

During the Barwon Water Groundwater Community Reference Group (CRG) it was argued that these Artificial Supplementary Flows should be turned off so that a true indication of the impacts in the area from groundwater extraction could be observed. Despite Barwon Water having started negotiating in 2012 with Southern Rural Water to change the vegetation monitoring conditions of the licence, the CRG was told in no uncertain manner that the licence conditions could not be altered until the renewal of the licence takes place in 2019. The first meeting of the CRG was in October 2013.

#### **E. Scope & Artificial Supplementary Flows.**

The Scope mentions Supplementary Flows 7 times. The Wong, Baldwin and Bush July documents found in the Scope, mention these flows 6 times and the nominate experts Priority document in Appendix C mentions Supplementary Flows zero times.

None of these references discuss the impacts as described in points 1-4 above. The comments mention increasing the flows; there not being enough flow released to replace the natural perennial flow in Boundary Creek and the risk that increasing the flows may impact on ecological values. The absence of a wider discussion on the Artificial Supplementary Flows makes it appear that these flows are now a “normal” accepted part of the groundwater extraction process. This does not sit well as the management of the Artificial Supplementary Flows have been a concern voiced by the local community since they first started to be released.

#### **F. Drainage of the Big Swamp.**

It was my understanding that at the 6 June 2018 meeting in Geelong, the theory put forward in the Jacobs Yeodene Swamp Report 9 November 2017, regarding the swamp being drained by the Gerangamete Swamp drainage works and impacted in a similar way by the fire trenches, was no longer regarded as correct. This was recorded on tape as part of the meeting process.<sup>(4)</sup>

#### **G. Pumping Has Increased the No Flow Days (Phantom Days of no flow).**

*“Recent technical work<sup>1</sup> confirmed that Barwon Water’s pumping from the Barwon Downs borefield over the past 30 years is the main cause of a reduction in baseflow (groundwater contribution to streamflow) in the lower reach of Boundary Creek increasing the frequency and duration of no flow periods.”<sup>(7)</sup>*

(Not sure what the <sup>1</sup> above the word “work” stands for or means.)

This statement gives the impression and it could be argued that it is a definitive fact, that pre-groundwater pumping Boundary Creek had periods of no flow. Subtle, but wrong. Data source not supplied and from experience none can be.

What took so long to state that pumping is the main cause of baseflow reduction in Boundary Creek places some doubt on the ability of the technical experts to extract, analyse and report on readily available data. Data that has been indicating this for years. Citizen scientists and other experts worked this out years ago.

#### **H. Why Remediate Only Boundary Creek and the Big Swamp?**

*“The purpose of the Notice is to ensure that Barwon Water successfully remediate impacts caused by historic groundwater extraction.”<sup>(7)</sup>*

Why then is the concentration on Boundary Creek and the Big Swamp? (See map page 39)

Considering it has been extremely obvious that pumping has impacted this area and never been acknowledged, as indicated by these quotes:



2003 “*No long-term flora and fauna impacts have been detected in the Boundary Creek area resulting from the operation of the Barwon Downs wellfield.*”<sup>(9)</sup>and by...

2012 “*...water table drawdown occurs during pumping, but no long-term environmental impacts have been linked to borefield operation.*”<sup>(10)</sup>and even as late as...

2016 “*No evidence was found that declining groundwater levels caused by groundwater extraction at Barwon downs had a negative impact on vegetation health in the catchment.*”<sup>(11)</sup>

In the same way it has taken over 30 years of blinkered vision to recognise the Boundary Creek and Big Swamp impacts, a similar blinkered vision regarding all the impacts within the drawdown area of influence is taking place. As stated earlier State Government Natural Resource Management (Including Barwon Water) cannot list any impact other than those connected to Boundary Creek and the Big Swamp.<sup>(12)</sup>

#### **I. Farmer Reliance on Summer Flows.**

Page 13, Figure 1 of the Scope has a few questionable comments. Since 1984 farmers no longer rely on summer flows in Boundary Creek. The increase in frequency of phantom no flow events is repeated once again. There has to be some question as to how long acid events have actually been happening down Boundary Creek.

#### **J. Existing Technical Studies.**

Even though these technical studies have not been peer reviewed or validated they form the major stream of input influencing the development of the Scope (page 22, the Scope).

#### **K. Area Covered by the Remediation Plan (Pages 23-27 of the Scope).**

It is intriguing to read how the area of drawdown influence as shown in Figure 5, page 24 in the Scope, can be rationalised down to a very small area requiring remediation (see blue circle page 39 below)(Also see Baldwin’s dumbing down supporting this rationalisation constricting the area of remediation, pp 30-31).

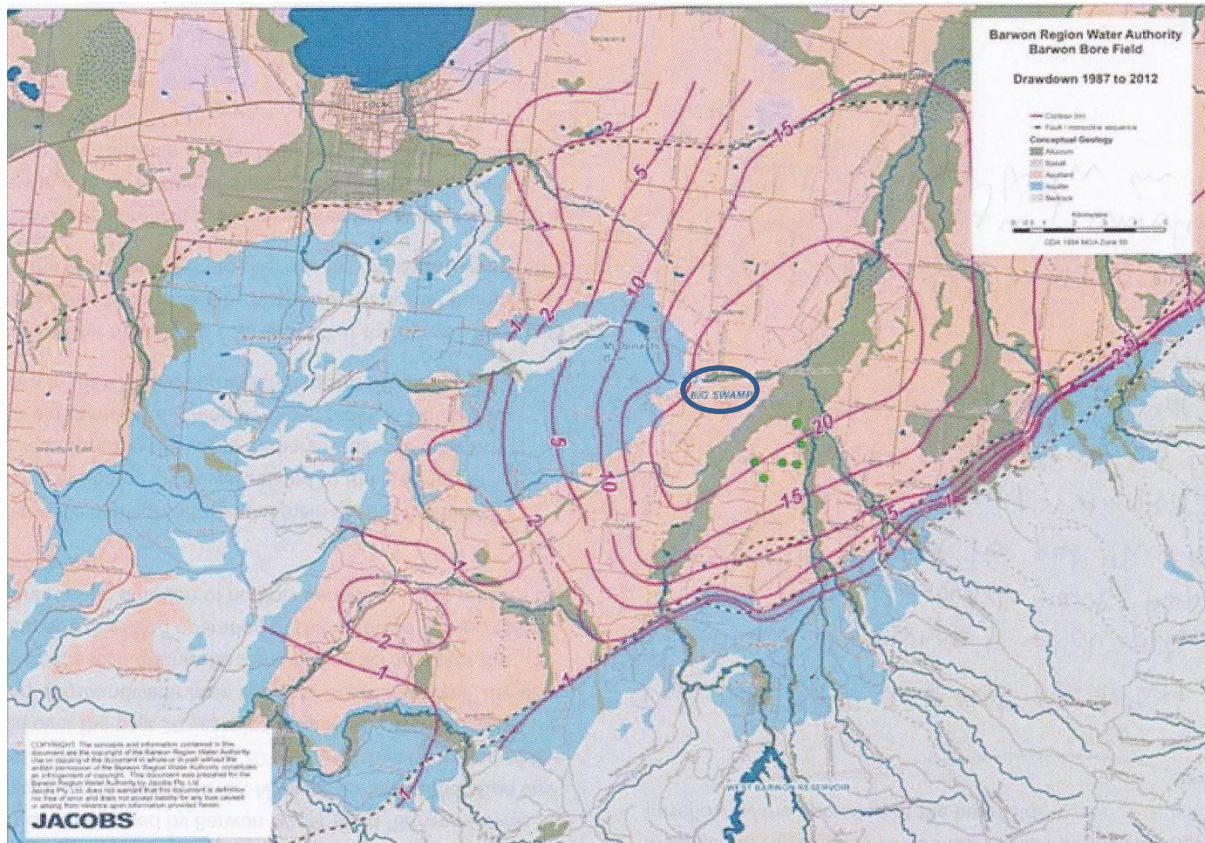


Figure 5: Drawdown in the LTA (1987 – 2012)

This drawdown map is representative of the area of influence and is substantially larger than the area Barwon Water has chosen to concentrate on.

***“The report (Jacobs June 2017) concluded that no other rivers or creeks have been impacted as significantly as Boundary Creek through change to baseflow by operation of the borefield.”***

Thanks goodness for that, but the fact remains that a 50% reduction in Loves Creek baseflows have not been insignificant. Nor can the 6% reduction of baseflows in the Gellibrand River be so easily dismissed. ***“The groundwater model estimates that historic operation of the borefield has resulted in a minor (6%) reduction in base flow in a small section of the Gellibrand River.”*** What is not said is that the area of investigation conducted by Jacobs only covered a small section of the Gellibrand River and that modelling reliability in this extremity of the area modelled, is unreliable.

Barwon Water also wants it to be believed that ***“...historic impacts of borefield operation have only been realised where the LTA outcrops at the surface and has translated into baseflow reduction.”*** The cone of depression under the Kewarren township and the Actual Acid Sulfate Soil sites on the Cirillo and

Campbell properties are contrary examples. And, Otway Water Books 40 and 43 certainly throws some curved balls criticising the modelling input and output results published by SKM/Jacobs for Barwon Water.

#### **L. A Classic Case of Morphication.**

Page 23 of the Scope.<sup>(7)</sup>

Barwon Water claims that Jacobs “...*found that operation of the borefield over the last 30 years is responsible for two thirds of the reduction of groundwater base flow into Boundary Creek...*”

#### **M. Other Considerations regarding the Scope.**

Another major concern with the Scope is the absence of any effort to accurately determine the stratigraphical cross section under the Big Swamp.

### **Jacobs’ Yeodene Swamp Study 2018.<sup>(13)</sup>**

In November 2017 a Final draft of this study was prepared by Jacobs.<sup>(1)</sup> The earlier November 2017 version prompted the writing of Otway Water Book 42. This was a 44 page criticism/review finished in December 2017.

In August 2018, after local community involvement ceased at the completion of Workshop 3, the 2017 study was revised<sup>(13)</sup> by Jacobs and used as a foundation setting, directing and influencing the development of the Scope. No community participation took place during the Scope’s development period. This example of complete disregard to local community involvement, is a return to the “good old days” when authorities believed they knew what was good for the community and went ahead with projects despite and regardless of any other consideration.

By 2018 the Jacobs’ Yeodene Swamp Final report<sup>(13)</sup> had many minor changes, and considerable major changes as a follow up to the nominated experts’ recommendations. Within their fields of expertise the nominated experts’ recommendations have been succinct, professionally done and most welcome. However, delving into and attempting to represent local community thoughts, wishes and aspirations, outside their expertise is seen as poorly executed and not asked for.

It would appear that the nominated experts (expert panel) fell under the “spell” of Jacobs during the Scope’s development period since August 2018, rather than represent the working group’s wishes.



*“The role of the expert panel is to provide independent advice on various aspects of the remediation concept as needed by the working group.”*

### **Jacobs’ Reluctance to Accept Constructive Criticism.**

Jacobs’ lack of readiness to take on board positive criticism and failure to change or adapt to mistakes is an unfortunate reality. Many of the queries posed in Otway Water Book 42<sup>(2)</sup> back in December 2017, have not been followed up. The FINAL copy of the “Yeodene Swamp Study,” August 2018,<sup>(13)</sup> still contains basic errors pointed out 12 months earlier.

For example:

- A. No attempt has been made to correct the wrong references made to Appendix B, D and E.
- B. An incorrect and confusing reference to Fig. 2.6 has not been corrected.
- C. The Glover report is incorrectly dated.
- D. There was no fire in the Big Swamp in 2006.
- E. No mention has been made of the 2010 Big Swamp fire.





## CONCLUSION

As with documents of this size, most people read the Introduction, skip through the text and read the Conclusion.

I think you will find the text most intriguing.



## APPENDIX ONE.

On Sunday, October 21, 2018, 21:56, Yvonne Swan <[yswan@tpg.com.au](mailto:yswan@tpg.com.au)> wrote:

TO WHOM IT MAY CONCERN,

I am 75 years of age and believe I am the longest living person to have an intimate knowledge of the Bug Swamp at Yeodene. My family farm is clearly shown in all the photos due south of the Big Swamp area. My parents first purchased this property in 1935. I firmly believe that there was never any attempt to drain the Big Swamp for agricultural purposes, and I therefore dispute the claim in the 1946 photo that it shows a drain constructed for this purpose.

Yours faithfully,

**Frederick James (Jim) Swan**



Virus-free. [www.avast.com](http://www.avast.com)

## APPENDIX TWO. Definitions of Anecdotal.

[www.yourdictionary.com](http://www.yourdictionary.com)

Anecdotal evidence is something that is story-like or something that is based on stories and retellings, not based on provable facts.

Collins Dictionary.

Anecdotal evidence is based on individual accounts, rather than on reliable research of statistics, and so may not be valid.

[www.vocabulary.com](http://www.vocabulary.com)

Anecdotal evidence is based on here-say rather than hard facts.

[www.oxforddictionaries.com](http://www.oxforddictionaries.com)

Anecdotal evidence not necessarily true or reliable.



FRIDAY 25 Jan. 2019



**HOPEFUL:** Water campaigner Nellie Shalley does not want Barwon Water to receive a renewed groundwater pumping licence, but the State Government says there must be a balance between remediating the environment and maintaining backup water supplies.

## State defends borefield plan

**The State Government has defended allowing Barwon Water to apply for a renewed groundwater pumping licence, despite also forcing the water authority to remediate the effects of past pumping.**

Water Minister Lisa Neville last year ordered Barwon Water to complete a legally enforceable remediation plan to repair the impact of past groundwater pumping at the Barwon Downs borefield.

But Barwon Water is also applying to renew its groundwater pumping licence, which is set to expire on June 30, with the State Government saying the resource provides long-term water security for the Geelong region.

"I intervened to ensure no licence is granted until remediation works are completed, as well as requiring Southern Rural Water to do additional environmental assessments before a decision on licencing is made," Ms Neville said.

"This is about getting the balance right to ensure that there is minimal environmental impact whilst maintaining affordable backup water supplies for Geelong and the region."

The minister has ordered that an independent panel assess Barwon Water's licence renewal application, and for authorities to consider a reduction in the maximum volume of water that can be extracted at the site.

Barwon Water's groundwater pumping

at Barwon Downs, which started in 1983 and last occurred in 2016, has been proven as the main cause of a reduced base flow in Boundary Creek, while also contributing to the creek's high acidity.

In a visit to Yeodene's Boundary Creek this week, Federal Environment Minister Melissa Price and Corangamite MP Sarah Henderson called for the Barwon Water to withdraw its licence application and for the State Government to disclose its remediation plan.

But Ms Neville said she believed "it's clear Sarah Henderson doesn't understand this issue and had not paid any attention to the work that is underway".

"We are working closely with the community to ensure remediation is done appropriately and that there is strong oversight of potential environmental impacts," she said.

Yeoden's Nellie Shalley has seen Boundary Creek flow through her property for decades, and said the reduced flow had been "almost immediate" when groundwater extraction began in 1983.

Ms Shalley was among water campaigners to meet with the federal politicians this week and said she was hopeful that Barwon Water "wouldn't receive their licence".

"I would like to see the government study the issues that we have and encourage Barwon Water to use all their other options for getting water for Geelong and district, rather than using groundwater."



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