

Lachlan Water Resource Plan

January 2017



CENTRAL NSW
COUNCILS



Centroc's Mission is to be recognised as the lead organisation advocating on agreed regional positions and priorities for Central NSW whilst providing a forum for facilitating regional co-operation and sharing of knowledge, expertise and resources; effectively nurturing sustainable investment and infrastructure development.

www.centroc.com.au

5 January 2017

Reference kb:mm 010517
Enquiries: Ms M Macpherson:

Department of Primary Industries
Locked Bag 5123
PARRAMATTA NSW 2124

lachlan.sw.wrp@dpi.nsw.gov.au

To whom it may concern,

Re: Lachlan Water Resource Plan- Surface Water

Central NSW Councils (Centroc) represents over 243,000 people covering an area of more than 72,500sq kms comprising the Local Government Areas of Bathurst, Blayney, Cabonne, Cowra, Forbes, Hilltops, Lachlan, Lithgow, Oberon, Orange, Parkes, Upper Lachlan, Weddin, and Central Tablelands Water.

It is about the same size as Tasmania with half the population and a similar GDP.

Centroc's vision is to be recognised as vital to the sustainable future of NSW and Australia.

Its mission is to be recognised as the lead organisation advocating on agreed regional positions and priorities for Central NSW whilst providing a forum for facilitating regional cooperation and sharing of knowledge, expertise and resources.

Centroc has two core objectives:

1. Regional Sustainability - Encourage and nurture suitable investment and infrastructure development throughout the region and support members in their action to seek from Governments financial assistance, legislative and/or policy changes and additional resources required by the Region.
2. Regional Cooperation and Resource Sharing – Contribute to measurable improvement in the operational efficiency and effectiveness of Member Councils through facilitation of the sharing of knowledge, expertise and resources and, where appropriate, the aggregation of demand and buying power.

The Centroc Board is made up of the 30 Mayors and General Managers of its member Councils who determine priority for the region. These priorities are then progressed via sponsoring Councils. For



Centroc was selected as one of five regional pilot Joint Organisations to assist the NSW Government strengthen and reform local government.

more advice on Centroc programming and priorities, please go to our website

<http://www.centroc.com.au>

Centroc has a proud track record in devising and delivering innovative cutting-edge regional programming. It succeeds through the good will and industry of its members and staff working collaboratively to the benefit of the region and its communities.

Water security for the region's urban centres is one of the highest priorities for Central NSW Councils with long term water security vital to meet community needs and underpin confidence for continued investment and growth in the region.

Centroc members have been working collaboratively for many years to identify and plan a range of water security solutions completing its National award winning Centroc Water Security Study in 2009.

The Centroc Water Security Study found that security of water supply could not be achieved through Demand Management initiatives alone but requires an integrated program of water conservation and demand management measures, coupled with new and upgraded water supply and storage infrastructure particularly high in the Lachlan catchment.

In line with recommendations in the CWSS, Centroc members committed to a unified approach to the sustainable delivery of water supply and sewerage services and to achieve and maintain Best Practice forming the Centroc Water Utilities Alliance in 2009.

The Alliance provides support to member Councils in meeting Best Practice in water and sewer management and in achieving cost savings and efficiencies including in asset management and workforce training and development. It does this through a regional procurement program, mentoring, sharing of knowledge and resource sharing. Centroc also has a strong track record in grant acquisition and in the management of regional grant funded activities and is a tireless advocate for water security for the region.

Highlights of Centroc's and its member's strategic regional water planning work is summarised as follows:

- National Award Winning Centroc Water Security Study;
- Innovative state-of-the-art water security solutions including the Orange Stormwater harvesting scheme and other innovative water and sewer management projects including Bathurst's Manganese Removal Project;
- Over \$3M in State and Federal Funding secured since 2009 including \$2.2M in Federal funding for the CWUA's Nexus between Water and Energy Project – a \$4.5M project to reduce energy used at the region's pump stations including a Water Loss Management Toolkit rolled out to Councils throughout NSW;
- A collaborative Water Utilities Alliance comprising 15 member Councils delivering cost savings and efficiencies for members recognised by the Productivity Commission;

- Strategic Regional water planning through the completion of Regional IWCM, Drought Management Plan, Demand Management Plan and the Centroc Water Security Study;
- Regional Priority Water Infrastructure Plan reflecting the priority for the region of large transformative water security projects;
- A Centroc Operators Group providing capacity building for operators recognised as industry leaders at the Water Industry Operators Association NSW Conference in 2016;
- A Working Party assisting members to implement Drinking Water Quality Management Plans;
- Delivery of Water Sampling and Australian Drinking Water Guideline training program for over 60 of the region's water operators; and
- Workforce Development Project for Water employees piloted by 5 CWUA member Councils identifying gaps between the current and future workforce needs and proposing actions to address these.

RESPONSE TO LACHLAN WATER RESOURCE PLAN (SURFACE WATER) - STATUS AND ISSUES PAPER

Thank you for the opportunity to provide feedback to the Status and Issues phase of the development of the Lachlan Water Resource Plan (surface water).

Firstly, it must be said that the timeframe for response to this Status and Issues paper is disappointing. Released on 23 November, correspondence was not received by Centroc member Councils until 28 November with responses to be considered when Councils are short staffed over the Christmas/New Year period for submission on 11 January.

Centroc has advocated for some time to be a partner with the State Government in strategic regional water planning. As detailed above, the Centroc region is well advanced in its thinking on water planning and continues to advocate for improved planning in this area.

Through its Joint Organisation Pilot, highly successful Water Utilities Alliance and drawing on its maturity in water security, Centroc has advocated to work in partnership with Government to co-design a regional water planning framework that better aligns Local, Regional and State Planning processes delivering optimal outcomes for our communities and good value investment by Government in water security infrastructure.

At meetings with Mr Gavin Hanlon, Deputy Director General on 15 September 2015 and Minister Niall Blair in May 2015, November 2015 and again in May 2016 and in correspondence, Centroc has sought clarification of the NSW Government's Strategic Framework for Water Planning, in particular, opportunities for engagement with Central NSW Councils.

It is noted that DPI Water have now developed a *Delivering Water Resource Plans for New South Wales Roadmap 2016-2019* (October 2016) which sets out the way forward in developing the 22 water resource plans (WRPs) required for NSW by 2019.

The *Roadmap* outlines the NSW Government's key principles for water resource plans in line with the Intergovernmental Agreement on Implementing Water Reform in the Murray –Darling Basin, the National Water Initiative and the Water Management Act 2000 the foundational principles of which include that:

- WRP's will be based on extensive consultation with stakeholders and the community
- WRP's will balance social, economic and environmental needs of the community and catchments.
- Stakeholder Advisory Panels will guide the development of the surface water WRP's.

It is disappointing that despite inter-governmental collaboration being one of the three core activities the State Government has determined for Joint Organisations, Local Government in the Central NSW region has not as yet been included in targeted consultations that, according to the Roadmap and DPI Water website, have already occurred in relation to Water Sharing Plans for the inland plans.

Further to this, Local Government is not represented on the Stakeholder Advisory Panels (SAP) established in either the Lachlan or Macquarie-Castlereagh surface water areas for water resource planning.

The elected representatives that comprise the Centroc Board are the voice of local communities in this region and well placed to ensure their communities' needs are considered in any review of water resource planning as it impacts on the Central NSW region. Also, given that Councils in the Lachlan catchment are water licence holders, lack of Local Government representation on the SAP would seem an oversight.

In light of the above, the Centroc Board resolved (August 2016) to write to DPI Water seeking a targeted stakeholder session with Centroc representatives on the review of the Water Sharing Plans as they impact on the Lachlan and Macquarie catchments. A copy of this correspondence (18 October) and response from the Deputy Director General, DPI Water (received 16 December) is provided as attachment 1.

As detailed in the Deputy Director General's response, DPI Water will offer stakeholders a number of opportunities to engage in the planning process by calling for public submissions on specific issues including through the request for submissions to the Status and Issues paper the subject of this submission.

While Centroc welcomes this opportunity, it is unclear from this Status and Issues paper what the opportunities for engagement are given that for the majority of issues included in the paper options and modelling either have been, or are being, discussed with the Stakeholder Advisory Panels with no details provided on what these are. Other issues are marked as resolved, not to be investigated further or subject to other reports and Plans being drafted, for example the NSW Policy Pre-requisite Implementation Plan, Long Term Watering Plan and Risk Assessment for the Lachlan Surface Water Resources. Refer to the table summarising the status of issues detailed in the Lachlan Water Resource Plan (Surface Water) - Status and Issues Paper with Centroc's response provided as attachment 2.

Centroc has sought copies of separate technical assessments referred to on page 13 of the Status and issues paper specifically the Risk Assessment for the Lachlan Surface Water Resources and has been advised that these have not yet been completed and/or approved for release with no indication as to when they will be ready (email DPI Water- 15 December).

This raises the question - is this a consultation or an opportunity to tell us what is happening? How, for instance, are stakeholders going to be informed of the options being considered by the Strategic Advisory Panel?

In line with Centroc Board resolve and building on this regions extensive work in water security, Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. We reiterate our request for Central NSW Councils representation on the SAP and for targeted consultation with Centroc member Councils impacted by the Lachlan Water Resource Plan.

The Murray-Darling Basin Authority has openly acknowledged that the biggest issue encountered in Basin Planning previously was the lack of engagement with stakeholders representing urban water and the balance with economic and environmental needs.

While urban water needs are of the highest priority for Central NSW Councils and it is understood that demand for water is subject to an access regime, which sets priorities for various types of demand (i.e. environmental water, town water, high security and general purpose licences), Local Government in this region is interested in ensuring an appropriate balance of socio-economic and environmental water needs has broad based acceptance.

As the NSW Government Roadmap proposes a triple –bottom-line approach to the Murray Darling Basin Plan which puts local communities first – we’re keen to understand how DPI Water plan to engage with communities in our region to ensure this balance is achieved.

Centroc has a history of working collaboratively with key stakeholders across the catchment to ensure an appropriate balance is struck between the needs of towns, industry, agriculture and the environment re-affirming its shared position on water resource management with Lachlan Valley Water and the Belubula Landholders Association in November 2016.

In conclusion, Centroc requests:

- More realistic consultation timeframes that provide an opportunity for meaningful engagement in water resource planning;
- Representation by Local Government on the Strategic Advisory Panels;
- Targeted consultation with Centroc member Councils impacted by the Lachlan Water Resource Plan.

Again, Centroc offers to work in partnership with Government to co-design a regional water planning framework that better aligns Local, Regional and State Planning processes delivering optimal outcomes for our communities ensuring an appropriate balance of socio-economic and environmental water needs.

We look forward to working with DPI Water on a targeted consultation session as outlined in correspondence from the Deputy Director General (received 16 December).

If you require further information or clarification on comments in this submission please contact Ms Meredith Macpherson, Program Manager , Centroc Water Utilities Alliance

Yours sincerely,

Jennifer Bennett
Executive Officer
Central NSW Councils (Centroc)

18 October 2016

Reference: Bwmm 201616
Enquiries: Ms J Bennett

Mr Gavin Hanlon
Deputy Director General (Water)
Department of Primary Industries
Locked Bag 5123
Parramatta NSW 2124

Dear Mr Hanlon,

Centroc engagement in the development of a Water Resource Plan for the Lachlan and Macquarie Catchments

Further to previous correspondence dated 25 March 2015 and subsequent discussions including with the Minister, Niall Blair (May 2015, November 2015, May 2016) and Ms Alison Morgan, Department of Premier and Cabinet, I write again to seek engagement by DPI Water with Central NSW Councils (Centroc) in Regional Water Planning, specifically the development of Water Resource Plans.

It is noted that DPI Water have now developed a *Delivering Water Resource Plans for New South Wales Roadmap 2016-2019* dated October 2016 which sets out the way forward in developing the 22 water resource plans (WRPs) required for NSW by 2019.

The *Roadmap* outlines the NSW Government's key principles for water resource plans in line with the Intergovernmental Agreement on Implementing Water Reform in the Murray–Darling Basin, the National Water Initiative and the Water Management Act 2000 the foundational principles of which include that:

- WRPs will be based on extensive consultation with stakeholders and the community
- WRPs will balance social, economic and environmental needs of the community and catchments.
- Stakeholder Advisory Panels will guide the development of the surface water WRPs.

As you know Central NSW Councils (Centroc) has undertaken extensive work on water security for the Central NSW region through its 2009 Centroc Water Security Study and most recently its prioritisation of regional water security infrastructure completed in collaboration with RDA Central West.

Water Security for the communities of Central NSW, particularly security of supply that balances urban water needs with economic and environmental needs is of the highest priority for the Centroc Board.

Through its Joint Organisation Pilot, highly successful Water Utilities Alliance and drawing on its maturity in water security, Centroc has advocated to work in partnership with Government to co-design a regional water planning framework that better aligns Local, Regional and State Planning processes delivering optimal outcomes for our communities and good value investment by the Government in water security infrastructure.

In consideration of advice on the DPI Water website that targeted consultation has already occurred in relation to Water Sharing Plans for the inland plans and that Stakeholder Advisory Panels have been established in the Lachlan, Gwydir and Macquarie surface water areas for water resource planning, the Centroc Board resolved on 26 August to write to DPI Water seeking a targeted stakeholder session with Centroc representatives on the review of the Water Sharing Plans as they impact on the Lachlan and Macquarie catchments.

With the subsequent release of the Roadmap where it is stated that preparation and work with Stakeholder Advisory Panels for the Lachlan and Macquarie surface areas commenced in July 2016 and are scheduled for completion at the end of October, Centroc is concerned to ensure engagement with DPI Water in any discussions with regard to water resource planning as it impacts on the Central NSW region.

This Regional Organisation of Councils speaks for over 243,000 people covering an area of more than 72,500sq kms comprising Bathurst Regional, Blayney, Boorowa, Cobar, Cowra, Forbes, Lachlan, Lithgow City, Mid Western, Oberon, Orange City, Parkes, Upper Lachlan, Weddin, and Young Councils and Central Tablelands County Council.

The Murray-Darling Basin Authority has openly acknowledged that the biggest issue encountered in Basin Planning previously was the lack of engagement with stakeholders representing urban water and the balance with economic and environmental needs.

As the NSW Government Roadmap proposes a triple –bottom-line approach to the Murray Darling Basin Plan which puts local communities first – we’re keen to understand how DPI Water plan to engage with communities in our region and to offer support in ensuring an appropriate balance of social-economic and environmental water needs that has broad based acceptance.

Representing over 243,000 people across an area of more than 72,500sq kms in the Local Government Areas of Bathurst, Blayney, Cabonne, Cowra, Forbes, Hilltops, Lachlan, Lithgow, Mid Western, Oberon, Orange, Parkes, Upper Lachlan, Weddin, Young and Central Tablelands Water, Centroc is the lead organisation advocating on agreed regional positions and priorities for Central NSW communities. The elected representatives that comprise the Centroc Board are the voice of local communities in this region and well placed to ensure their communities’ needs are considered in any review of water resource planning as it impacts on the Central NSW region.

Please advise who we should contact at DPI Water to seek engagement on the development of water resource plans as they impact our region.

Please contact our Executive Officer Ms Jennifer Bennett on [redacted] if you require further information.

Yours sincerely,

Cr Bill West
Chair
Central NSW Councils (Centroc)



OUT16/39663

RECEIVED
16 DEC 2016

Mr Bill West
Central NSW Councils
PO Box 333
Forbes NSW 2871

BY:

Dear Mr West

Engagement in development of Lachlan and Macquarie plans

Thank you for your letter of 18 October 2016 concerning Centroc engagement in the development of the water resource plans (WRPs) for the Lachlan and Macquarie.

I appreciate your desire to participate in the development of the Lachlan and Macquarie water resource plans, particularly given that one of your highest priorities is providing Central NSW with a secure water supply.

One of the key principles for the development of water resource plans is extensive consultation with stakeholders and the community. DPI Water will offer stakeholders a number of opportunities to engage in the planning process by calling for public submissions on specific issues, undertaking targeted consultation with key stakeholder groups and through Stakeholder Advisory Panels.

A Status and Issues document was released for both the Lachlan and Macquarie surface water resource plans on 23 November 2016. This document outlines the context for plan development, the status of the water resources, and known issues to be considered during the development of the plan. You can download a copy of both documents at the DPI Water website: <http://www.water.nsw.gov.au/water-management/water-resource-plans>

DPI Water is writing to all stakeholders to announce the availability of this document. The department will also call for submissions on the issues listed in the document or any additional issues stakeholders perceive need addressing during the water resource planning process.

I am pleased that Centroc are taking a proactive approach towards WRP development. I have arranged for Ms Tracey Brownbill, Team Leader Water Planning South and Mr Dave Miller, Team Leader Water Planning North to assist you with your request for a targeted consultation session.

Ms Brownbill may be contacted at DPI Water's Albury office
whilst Mr Miller may be contacted at DPI Water's Kempsey office

As always, I would welcome to the opportunity to meet with your group again in person should you have further concerns.

Yours sincerely

Gavin Hanlon
Deputy Director General, DPI Water
25/11/2016

LACHLAN WATER RESOURCE PLAN- SURFACE WATER ISSUES FOR COMMENT		
ISSUES	STATUS	CENTROC COMMENT
Supporting Aboriginal values and uses Issues	Status	
The term Cultural Flows is identified by the Basins' Aboriginal Nations as an essential entitlement. Although cultural flows are often viewed as being similar to environmental flows, they provide social, spiritual cultural and economic benefits that can't be satisfied by environmental flows or specific purpose Aboriginal cultural water licences. Cultural and economic flows need to be considered as an entitlement within the WSP and the WRP.	No provisions for cultural flow entitlement in the WSP or WRP.	<p>Centroc has no policy position in regard to this issue.</p> <p>In line with Centroc Board resolve- Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>As a general comment Centroc has extensive experience and maturity in water resource planning in the Central NSW region and is well connected across communities to ensure communication is undertaken with appropriate stakeholder groups.</p> <p>As the NSW Government Roadmap proposes a triple –bottom-line approach to the Murray Darling Basin Plan which puts local communities first – we're keen to understand how DPI Water plan to engage with communities in our region and to offer support in ensuring an appropriate balance of social-economic and environmental water needs that has broad based acceptance.</p> <p>Urban water usage represents only 2% of total water use in the Lachlan catchment and it is therefore crucial that this is not overlooked.</p>

<p>Aboriginal Community Development Licences</p> <p>The current Aboriginal Community Development water licence provisions are not equitable in general for Aboriginal people across NSW. There are no real opportunities for Aboriginal people to access water for economic use within the surface or groundwater sources within the Basin. There needs to be real opportunities that deliver real benefits for Aboriginal people that allow Aboriginal people to become involved in the water market, and create employment opportunities for Aboriginal people.</p>	<p>These licences can only be issued in coastal river systems, subject to the relevant WSP providing for applications to be made.</p>	<p>Centroc has no policy position in regard to this issue.</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>
<p>Constraints in the uptake of water licences</p> <p>Aboriginal people do not have the capacity to access water in terms of water infrastructure and cost of water licensing. This has made it impossible for Aboriginal communities to take up water licensing opportunities in terms of funding to purchase water licenses and water infrastructure. Mostly all Aboriginal land councils and individuals have land that they wish to develop, but find it impossible to purchase water licences due to lack of funds. The creation of the water market has added to these difficulties. Aboriginal communities</p>	<p>Aboriginal Communities/individuals have no or limited capacity or the funding to enter into the water market.</p>	<p>Centroc has no policy position in regard to this issue.</p> <p>In line with Centroc Board resolve Central NSW region are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>

are seeking support in terms of waiving the cost of water licenses and creating an Aboriginal Water Trust to support the uptake of water licensing.		
<p>Critical human water needs</p> <p>Aboriginal remote communities have no access to basic drinking water. Many communities in the Basin have issues with accessing water for basic human needs to maintain health, hygiene and wellbeing. The current state of water quality in many systems does not provide water of reasonable health standard for a number of reasons including fertilizer and sediment run-off, various forms of pollution, bank erosion and riparian zone clearing.</p>	Current water quality across the WRP area is not sufficient for human consumption direct from the surface water source	<p>Centroc has no policy position with regard drinking water for remote Aboriginal communities.</p> <p>It does however maintain that access to safe drinking water is a human right.</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>
<p>Water Quality issues are impacting on the health and reproduction of cultural food resources e.g. fish are covered in sore spots. Water quality is also significantly important to spiritual and ceremonial sites and the general health of the Lachlan river system. How is DPI water going to address the water quality issues that impact on the general health of the Lachlan river system?</p>	Limited data for the WRP processes to address water quality considerations regarding Aboriginal values and uses	<p>While Centroc has no specific policy position 10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p>

		<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>
<p>Regulated systems - water licence delivery volumes and extraction timeframes have impacts on community access to water and use of water. Large licences result in large delivery volumes. Then the extraction capacity of pumps often results in the volume disappearing the following day. This inconsistency in flows adds to the difficulty for general enjoyment and social benefit of the system. What data is there to demonstrate impacts to or benefit of ecological services – fish, birds and vegetation which are also used by Aboriginal people.</p>	<p>Potential for WRP risk assessment to consider</p>	<p>Centroc is unaware of the availability of data in this regard but would be keen for this to be publicly available to enable engagement in any risk assessment undertaken in the future.</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>
<p>Instream works are impacting on the general and natural flow of water within the Lachlan system. The Lachlan has a number of weirs that have been created over time to aid with water extraction, which are limiting flow and recharge of ground water bores held</p>	<p>Potential for WRP risk assessment to consider</p>	<p>Centroc welcomes a potential risk assessment and are keen for this to be publicly available to enable engagement in any risk assessment undertaken in the future.</p> <p>Lachlan, Cowra and Parkes have been looking at instream and off stream work for urban water security which is why Councils need</p>

downstream.		to be at the table when decisions are made.
Water quality in the unregulated reaches of the system is an issue in low flow times and generates significant weed growth. This hampers with fishing activities and cultural renewal activities that look to utilise the water source.	Potential for WRP risk assessment to consider.	<p>Centroc welcomes a potential risk assessment and are keen for this to be publicly available to enable engagement in any risk assessment undertaken in the future.</p> <p>Water quality is a priority for Councils.</p> <p>10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p> <p>Attention: Lachlan/Cowra/Forbes /Parkes/Blayney/Cabonne/Hilltops/Upper Lachlan</p>
Availability of access to water for cultural practice and renewal activities is an issue that impacts the Aboriginal communities' ability to plan and carry out cultural renewal events. There is a reliance on natural flows, however planning around these events is problematic.	Provision for specific purpose licence however no 'cultural flows'.	<p>Centroc has no policy position</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or</p>

		representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.
Reviewing environmental water Issue - Lachlan Regulated	Status	
Review translucent flow rules. A range of issues have been raised to tighten and loosen the translucent flow rules and make the delivery of the translucent flows water more flexible.	A range of options have been discussed with the SAP members. These are being modelled and feedback sought from SAP.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to be able to do so.</p> <p>It is unclear from the content of this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Currently Centroc is unaware of options proposed and being modelled and therefore cannot comment.</p>
Review trigger for the Environmental Water Allowance (EWA). Changes have been proposed to the EWA trigger to improve availability of the EWA during drier times.	A range of options have been discussed with SAP members. These are being modelled and feedback sought from the SAP.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Currently Centroc is unaware of options proposed and being modelled and therefore cannot comment.</p>

<p>Protection and management of all environmental flows in the Lachlan system. Issue relates to protecting and managing all planned and licenced environmental water through the Lachlan system to maximise environmental outcomes.</p>	<p>Options to be considered.</p>	<p>The 2009 Centroc Water Security Study (CWSS) used a stochastic hydrology model and focussed on town water supplies.</p> <p>Since then Centroc has completed Regional Demand, Drought and Integrated Water Cycle Management (IWCM) Plans.</p> <p>Centroc has long advocated to the State Government for a review of the CWSS with DPI Water, NSW Water and other key stakeholders at the table.</p> <p>This is essential as changes in model outputs attempt to accurately reflect the impacts of climate change on catchment yields which could result in significantly less secure water supplies than the original CWSS.</p> <p>Centroc is advocating for a regional water planning framework that takes into consideration water supply and demand options for the Local Water Utilities (LWUs) across the catchment as a whole that aligns Local, Regional, State and Federal planning processes and strikes an appropriate balance between the needs of towns, industry, agriculture and the environment.</p>
<p>Release rules for EWA and WQA should be established. Original Lachlan WSP stated that volume and timing of releases shall be specified in procedures established by the Minister. This was not undertaken during the life of the WSP.</p>	<p>This provision has been removed from the WSP and replaced with a provision that states the Minister should seek advice from an Environmental Watering Advisory Group (EWAG); this change was supported by stakeholders.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>

Limit the available water determination (AWD) to 0.65 ML/share to address poor river condition. This is a proposal to use a reduction in the AWD to provide more water for the environment.	The AWD is used to distribute allocations not to provide water for the environment. Environmental water is provided through the planned environmental water rules and licenced environmental water. Issue not to be investigated further.	In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.
Review structure of the Environmental Water Advisory Groups (EWAGs). The Minister's report on the replacement WSPs recommended that this issue is dealt with at a state-wide level during water resource planning	An independent review of EWAGs was undertaken in 2014. The outcome of this review has been assessed by OEH who are responsible for administering and supporting the EWAGs. Clauses in WSP to be reviewed to ensure state wide consistency.	According to the OEH website www.environment.nsw.gov.au/environmentalwater/lachlan-ewag.htm Group members represent a range of stakeholders including the Aboriginal community, the Lachlan catchment community, the Office of Environment and Heritage, the NSW Department of Primary Industries (DPI Water), Lachlan Valley Water Users, WaterNSW and the Murray Darling Basin Authority (observer status). It is not clear whether Local Government is represented on the EWAG. Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.
Issue – Belubula Regulated	Status	
Review the rules for accessing uncontrolled flows. The trigger used to permit access to	A range of options have been discussed with SAP members. These are being modelled and feedback sought from the SAP.	In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.

uncontrolled flows is not working as originally intended when the WSP was developed in 2012. Options have been proposed to improve the trigger so it operates more closely to the original intent.		<p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Currently Centroc is unaware of options proposed and being modelled and is therefore unable to comment.</p>
Review the end of system flow target. The implementation of the end of system flow rule is not matching the original intent as proposed during rule development. During the recent period when dam levels have been extremely low this flow has not been provided due to issues of water availability. In light of the original intent of the rule, a review is to be undertaken.	Options to be discussed with the SAP.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Currently Centroc is unaware of options proposed and therefore cannot comment.</p>
Issue – Mandagery Creek	Status	
Review of the cease to pump rules. This rule was subject to review as part of the replacement process for the Mandagery Creek WSP. The review was not completed within the timeframe of	To date several options have been considered and discussed with stakeholders.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the</p>

the replacement process and subsequently was rolled over into the water resource plan process.		<p>opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Currently Centroc is unaware of options proposed and therefore cannot comment.</p>
Review of trade rules		
Issue – Lachlan Regulated	Status	
<p>Review impact of permanent removal of mid Lachlan trade barrier.</p> <p>The original WSP provided for a review of this trade rule. A partial review was undertaken resulting in an increase in the volume of temporary water to be traded across the barrier. A rule review is also required in light of the Basin Plan trading guidelines.</p>	<p>A range of options have been discussed with the SAP members. These are being modelled and feedback sought from SAP.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc is unaware of options proposed and therefore cannot comment.</p>
<p>Review trading into Wallumundry/Wallaroi system.</p> <p>Limited channel capacity constraints within some reaches of these systems hinder water delivery. Transmission losses are relatively high for the volume of water being delivered. Future increase in extractions from these systems may further impact deliverability of water orders.</p>	<p>Options to be discussed with the SAP.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan</p>

		<p>Water Resource Area.</p> <p>Centroc is unaware of options proposed and therefore cannot comment.</p>
Granting of access licences Issue – Lachlan Regulated	Status	
<p>Review the continued granting of Domestic and Stock (stock) access licences. The Lachlan WSP is the only inland plan that allows the granting of stock and domestic (stock) licences. There is concern that granting of these licences could contribute to growth in use. However, if granting is prohibited water for stock use can only be obtained through trading.</p>	Options to be discussed with the SAP.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from the content of this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc would like to be engaged through the SAP in these discussions.</p>
Expanding the regulated system Issue – Lachlan Regulated	Status	
<p>Consider providing access to regulated water for licence holders along Booberoi Creek. Unregulated river licence holders on Booberoi Creek have requested access to regulated water to improve reliability of access to water.</p>	<p>DPI developed a consultation paper presenting a number of options. Consultation was undertaken with relevant stakeholders. DPI Water to now assess feedback.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>

		Currently Centroc is unaware of this consultation process. Attention: Lachlan Shire Council have you been consulted?
Improving accounting rules Issue – Lachlan Regulated	Status	
Debit individual general security accounts with evaporation losses associated with volume of allocation held in accounts. Currently evaporation losses associated with holding and delivering water are socialised across all licence holders. This proposal would involve debiting these losses against individual accounts. The volume to be debited against an account would be based on the volume of allocations held in the account	Discussed with the SAP. Rules for inclusion in the WSP to be drafted and comments sought at public exhibition.	In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area. Centroc would like to be engaged through the SAP in these discussions.
Review the account reset rule in WSP. All general security accounts are spilled and reset whenever storages are full or are highly likely to fill, including when airspace releases from Wyangala are made. Issues have been raised in relation to the frequency of subsequent resets and the information used for determining AWDs when airspace releases are made.	Options around these issues to be discussed with the SAP.	In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area. Centroc would like to be engaged through the SAP in these discussions.
Reduction in the account limit.	A range of options have been discussed with	In line with Centroc Board resolve Central NSW Councils are keen

The limit for general security accounts is 200%. A reduction in the account limit is proposed to improve security for active GS licence holders.	the SAP members. These are being modelled and feedback sought from the SAP.	<p>to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc is unaware of options proposed being modelled and therefore cannot comment.</p>
Allow high security licence holders to nominate from which subaccount water orders are debited.	Clause added to replacement WSP to address this issue. Issue resolved.	No comment sought
Review carryover limits.	General security accounts are managed through continuous accounting, there is therefore no carryover. Issue not to be investigated further as agreed by stakeholders.	No comment sought
Issue – Belubula Regulated	Status	
Reduction in the account limit The limit for general security accounts is 130%. A reduction in the account limit is proposed to improve security for active GS licence holders.	A range of options have been discussed with the SAP members. These are being modelled and feedback sought from the SAP.	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>

		Centroc is unaware of options proposed being modelled and therefore cannot comment.
Improving river operations Issue – Lachlan Regulated	Status	
Reduce the frequency of replenishment flow delivery.	This issue has been withdrawn. Issue not to be investigated further.	No comment sought
Re-credit return flows from replenishment flows exiting Booberoi Creek.	Replacement WSP has addressed this issue. Issue not to be investigated further	No comment sought
Review end of system flow rule.	Agreed by stakeholders that this was not a high priority issue and should not be investigated further.	No comment sought

Priority of extractions during periods of channel capacity constraint	Clauses in WSP to be reviewed to ensure state wide consistency	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc would like to be engaged in review of this issue.</p>
Changing resource assessment assumptions Issue - Lachlan Regulated	Status	
Change the minimum inflow sequence (MIS) to a less conservative percentile (99th to	A range of options have been discussed with the SAP members. These are being modelled	In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would

<p>98th).</p> <p>This proposal is aimed at improving water availability for general security water users. The Lachlan hydrological model uses the MIS to ensure that the storage doesn't run dry for the period of record. The result of using a less conservative MIS may be an increase in water availability but in very dry times the storage may run out of water earlier.</p>	<p>and feedback sought from the SAP</p>	<p>like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc is unaware of options proposed and being modelled and therefore cannot comment.</p> <p>As a general comment - the Lachlan hydrological model is key to understanding changing resource assessment assumptions and impacts on urban water security.</p>
<p>Review assumptions underlying resource assessment.</p> <p>These assumptions include the reserves set aside in the resource assessment for essential requirements, the environmental water allowance and the water quality allowance.</p>	<p>There are ongoing negotiations between DPI Water and the Lachlan CSC regarding these assumptions. Issue not to be investigated further as part of the WRP.</p>	<p>Lachlan Customer Service Committee – Water NSW includes LG rep- Terence Fishpool, Lachlan Shire Council</p> <p>http://www.waternsw.com.au/customer-service/feedback/committees/lachlan-valley-csc2</p>
<p>Issue - Belubula Regulated</p> <p>Review assumptions underlying resource assessment.</p> <p>Recent analysis indicates that the standard resource assessment techniques do not apply well to the Belubula Regulated River</p>	<p>DPI Water is currently reviewing the resource assessment for the Belubula to improve its accuracy.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from the content of this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>

		Centroc seeks the opportunity for engagement on any resource assessments being undertaken for the Belubula Regulated River.
Ensuring water supply for Lake Cargelligo Issue - Lachlan Regulated	Status	
Proposal to provide allocations to Lake Cargelligo, including diverting river water through the lake and keep the lake at a specific level.	Initial consultation with stakeholders has been undertaken. Options are being investigated.	Attention: Lachlan Shire Council
Improving the trigger for growth in use Issue - Lachlan Regulated Review growth in use trigger to reduce its sensitivity. It is proposed that the criteria used to assess if extractions are exceeding the long-term average annual extraction limit are too sensitive. It is suggested that these criteria could result in the implementation of a growth in use strategy in response to small fluctuations which are not representative of a true growth in use.	Status The growth in use rules in the WSP are based on departmental policy. These rules are being reviewed at a statewide level by DPI Water as part of the development of the WRP and in light of the requirements of the Basin Plan.	No comment sought In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.
Confirming the baseline diversion limit (BDL) Issue – Belubula Regulated	Status	
The accuracy of the Baseline Diversion Limit (BDL) as used by the Murray Darling Basin Authority (MDBA) for the Belubula Regulated River has been questioned. Water users are concerned that the Belubula component of the Lachlan BDL	DPI Water has commenced reviewing the Belubula component of the Lachlan WRP BDL. Any changes proposed to the BDL needs to be approved by the MDBA	No comment sought In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.

calculated by the MDBA is incorrect.		<p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>Centroc seeks the opportunity for engagement on any reviews being undertaken for the Belubula Regulated River.</p>
Improving water security Issue - Belubula Regulated	Status	
Support from water users for construction of a dam on the Belubula River.	This matter is out of scope for the water resource plan process.	NOTED
<p>Improving plan objectives and performance indicators Issue</p> <p>The current objectives and performance indicators in the water sharing plans are not fit for purpose.</p>	<p>DPI Water is developing improved plan objectives and performance indicators. The Appendix includes a draft set of objectives for the Lachlan Water Resource Plan. Once they are finalised, a subset of these objectives with performance indicators will replace those in the current water sharing plans.</p>	<p>No comment sought</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>As detailed elsewhere, Centroc welcomes engagement in the development of a Lachlan Water Resource Plan</p>

Complying with the SDL Issue	Status	
<p>Under the Basin Plan, compliance with the SDL is determined each year by summing a running balance of 'unders' and 'overs' from previous years. If the balance exceeds 20% of the SDL this may be a breach. WSPs have different arrangements for assessing compliance with extraction limits, which may not synchronise with the Basin Plan. The Basin Plan also provides for States to put forward reasonable excuses for SDL non-compliance.</p> <p>Long-Term Diversion Limit Equivalent (LTDLE) factors need to be established for each licence category in order to determine what percentage of each megalitre of water recovered for the environment contributes to bridging the gap between existing limits and the SDL.</p>	<p>These two issues will be addressed as part of the development of a NSW approach to addressing planning assumptions for surface water resources.</p>	<p>No comment is sought</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>As detailed elsewhere, Centroc welcomes engagement by the NSW Government in addressing planning assumptions for surface water resources as they impact on water resources in the Central NSW region.</p> <p>Centroc is advocating for a whole of catchment approach that aligns Local, Regional, State and Federal Government planning processes and strikes an appropriate balance between the needs of towns, industry, agriculture and the environment.</p>
Environmental watering Issue	Status	
<p>Changes to the way environmental water will be managed and used can affect water availability for licence holders. How environmental water can be used is constrained by the current legislative and policy framework in NSW.</p>	<p>OEH will be proposing management objectives and rules. DPI Water will assess the impact of these using the river system model. DPI Water is also investigating and developing new tools to increase transparency and availability of environmental water use.</p>	<p>No comment sought</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of its communities and would like an opportunity to be able to do so.</p> <p>It is unclear this Status and Issues paper as to the opportunities for</p>

	A state-wide approach, the NSW Policy Pre-requisite Implementation Plan, is in the process of being finalised. This implementation plan will provide direction for any policy and legislative changes that NSW will make to improve environmental watering.	engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area. Centroc welcome engagement by the NSW Government on the NSW Policy Pre-requisite Implementation Plan.
Managing risks Issues	Status	
There are medium to high risks to ecological values on the regulated river system arising from the take of water and regulation of flows. These risks have been identified across a broad range of flow conditions.	Risk mitigation strategies have been proposed that seek to improve the variability and naturalness of low to medium flows through the current review of translucent environmental water allocations and the ways in which irrigation water is delivered. The mitigation of risks associated with higher or less frequent flows will be addressed through the LTWP developed by OEH.	What's the LTWP? In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area. Centroc welcomes engagement by OEH on risk mitigation strategies.
There are possible medium to high risks to ecological values on a number of unregulated river water sources arising from the take of water. More information on water usage in unregulated water sources is needed to confirm whether this is the case.	Trade rules prevent risks being made worse by limiting trade into these areas. The current unregulated river water sharing plan is due for review in 2022. During this period, relationships between water flow and aquatic biota will be assessed in several plan areas and a review of the adequacy of	No comment sought In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so. It is unclear from this Status and Issues paper as to the

	current access rules will be undertaken. Better information on unregulated water source water usage will be available by that time.	opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.
Risks to water availability caused by increase in number of farm dams Issue	Status	
There are possible medium risks to ecological values in three areas arising from future growth in farm dams.	Subject to funding, DPI Water will monitor to determine if increases in farm dams actually occur in these areas.	<p>No comment sought</p> <p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of its communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p>
Risks to water availability arising from climate change Issue	Status	
Climate change poses low risk to high security entitlement in the Lachlan and Belubula regulated water sources irrespective of the scenario modelled. The rainfall and runoff reductions under the median and dry climate change scenarios	Current WSPs already provide water trading and carryover of water allocations to help water licence holders cope with changing climate. Given the long-term nature of climate change trends and the uncertainty about which scenario will actually occur, the	Water security for the region's urban centres including the need for a new storage in the Lachlan catchment is one of the highest priorities for Central NSW Councils with long term water security vital to meet community needs and underpin confidence for continued investment and growth in the region. Water for urban use is crucial for the sustainability of the region's towns.

<p>produce a medium risk to general security entitlement as well as the Booligal Wetlands and the Great Cumbung Swamp.</p>	<p>situation should be monitored and reassessed when the WRP is next reviewed. Risk to the Booligal Wetlands and Great Cumbung Swamp will be addressed in the LTWP prepared by OEH.</p>	<p>Centroc has undertaken extensive work on urban water security over the past decade completing the National award winning Centroc Water Security Study (CWSS) in 2009 which identified a range of water security solutions for the Central NSW region.</p> <p>Since then Centroc has undertaken regional water planning completing Regional Demand, Drought and Integrated Water Cycle Management (IWCM) Plans through its regionally collaborative Centroc Water Utilities Alliance (CWUA).</p> <p>Centroc has long advocated to the State Government for a review of the CWSS with DPI Water, NSW Water and other key stakeholders at the table. This is seen as essential as changes in model outputs in recent years attempt to accurately reflect the impacts of climate change on catchment yields which could result in significantly less secure water supplies than the original report.</p> <p>Key to a review of the CWSS and the development of Integrated Water Cycle Management Plans is the modelling to determine secure yield-based on how the climate change impacts have affected secure yield assessments.</p> <p>DPI Water has been working in this regard for some time and it is understood that draft <i>Guidelines on Assuring Future Urban Water Security</i> are available for use but have not yet been formally adopted.</p> <p>Centroc continues to advocate for a review of the CWSS and the opportunity to influence outcomes of any scenario modelling undertaken in the Lachlan catchment for the benefits of its communities.</p>
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Improving water quality Issue	Status	
<p>There are locations where turbidity, nutrients, pH and dissolved oxygen results are outside of target ranges (see section 2.5). Of these, there are medium to high risks to ecological values from:</p> <ul style="list-style-type: none"> • Elevated turbidity and nutrients across the catchment except at Abercrombie River • pH and low concentrations of dissolved oxygen across the catchment except at Abercrombie River and Lachlan River at Forbes. <p>Poor water quality at these locations also impacts on Aboriginal people's health and wellbeing and their cultural and spiritual values as described in Section 3.2</p>	<p>Co-operative natural resource management between community and government can mitigate some of these risks and reduce water quality degradation. DPI Water will work with partner agencies to identify those actions and suggest priority actions.</p> <p>Flow management can be of benefit in reducing some water quality risks. DPI Water will identify and assess improvements and changes to flow management as part of development of the water resource plan.</p>	<p>10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p> <p>With drinking water quality for communities of Central NSW of the highest priority for the Centroc Board, at the October 2016 meeting, Centroc General Manager's resolved support for this region to work in collaboration with appropriate agencies to pilot a more informed approach to the proposed implementation by the National Health and Medical Research Council of the Health Based Target framework, in the Australian Drinking Water Guidelines.</p> <p>The draft HBT Framework proposes a process for drinking water suppliers to meet the microbial HBT including sanitary surveys of catchments to identify the sources of microbial risk. This information is then used to inform a vulnerability assessment.</p> <p>The HBT framework describes a water safety continuum, where the utility can plan improvements to its operation in order to work towards the goal of safer water and best practice.</p> <p>Given the above, Centroc welcomes engagement with DPI Water</p>

		on risk mitigation and reduction of water quality degradation.
<p>Cold water from Wyangala dam is a high risk to ecological values. The impact of thermal pollution on Lachlan River has the potential to extend up to 213 km downstream of the dam.</p> <p>Cold water from Carcoar Dam is medium risk to ecological values. The impact of thermal pollution on Belubula River has the potential to extend up to 50 km downstream of the dam.</p>	<p>Wyangala Dam is a high priority dam for investigation (feasibility, design and cost of mitigation) in Stage 2 of the NSW Cold Water Pollution Strategy.</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p> <p>Attention: Cowra/CTW</p>
<p>There are elevated levels of salinity in the Lachlan River from time to time, which are a medium risk to ecological values.</p> <p>There is a risk of irrigated crop damage arising from the salinity of water taken from</p>	<p>NSW is party to the Basin Salinity Management Strategy 2030. Under this Strategy the government is monitoring salinity and where needed identifying and implementing measures for salinity</p>	<p>In line with Centroc Board resolve Central NSW Councils are keen to influence outcomes in support of their communities and would like an opportunity to do so.</p> <p>It is unclear from this Status and Issues paper as to the</p>

<p>Boorowa River (high), Mandagery Creek (high) and Belubula River (medium). However, there is uncertainty in the assessment, as it did not address the timing of higher salinity levels compared to the timing of the take of water for irrigation.</p>	<p>management.</p>	<p>opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p>
<p>Harmful algal blooms occur regularly at Lake Cargelligo and in some years at Carcoar, Wyangala and Lake Brewster and at some sites on the lower part of the Lachlan River during warmer months. Harmful algal blooms are caused by still, clear, warm water and high level of nutrients.</p>	<p>NSW currently manages the risk of human exposure to blue-green algal blooms through a coordinated regional approach with the Regional Algal Coordination Committees. Land and flow management may be of benefit in reducing harmful algal bloom risks. DPI Water will identify and assess possibilities as part of development of the water quality management plan</p>	<p>The supply of quality drinking water to Central NSW communities is of the highest priority for Centroc member Councils who are supported in achieving this through the Centroc Water Utilities Alliance with the following:</p> <ul style="list-style-type: none"> ○ A Drinking Water Quality Working Party acts in an advisory capacity monitoring progress to achieving regional compliance with the Public Health Act and Australian Drinking Water Guidelines (ADWG). ○ Implementation of a process for monitoring and reporting progress on Drinking Water Management Systems Plan implementation and co-ordinating regional response to

		<p>issues.</p> <ul style="list-style-type: none"> ○ Training procured on a regional basis through accredited industry specialists on Water Sampling and the ADWG for Water Operators and Managers to ensure best practice and compliance based delivery of safe, quality drinking water. ○ Implementation of a bi-monthly process for communication by NSW Health at a regional level on issues regarding compliance and other State managed programming relating to drinking water quality. ○ In keeping with the principles of the CWUA to encourage capacity building through shared learning, Drinking Water Management is a regular agenda item at bi-monthly CWUA meetings where members are encouraged to share advice on specific water quality issues, technologies implemented to improve water quality and tools such as templates or protocols developed for water quality management. <p>Centroc member Council's Local Water Utilities have processes for managing drinking water quality at the time of blue-green algal blooms as part of their Drinking Water Management Plans.</p> <p>10 Centroc member Councils including those in the Lachlan Water Resource Plan area- Blayney, Parkes, Cabonne, Cowra, Forbes, Lachlan are members of the Central West Councils Environment & Waterways Alliance.</p> <p>The Alliance exists to improve environmental outcomes across the region including water quality issues that impact on the general health of the waterways and rivers including Coxes, Fish, Macquarie, Castlereagh, Bogan, Lachlan, Cudgegong Rivers and</p>
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		<p>their many tributaries.</p> <p>http://www.cwcewa.com.au/about-us/</p> <p>In line with Centroc Board resolve, Central NSW Councils are experienced in water quality management for their communities and seek engagement with DPI Water in the development of the water quality management plan.</p> <p>Attention: Lachlan and CTW?</p>
Managing in extreme events Issues	Status	
<p>The current Lachlan Regulated River WSP requires the system to be managed so that a full allocation of water can be made available to towns through a repeat of the worst period of low inflows on record, at the commencement of the 2004 WSP. However, more severe droughts are possible, and unanticipated water quality events or system failures could occur. The current regulated river water sharing plans are unlikely to meet the requirements of the Basin Plan during extreme events.</p>	<p>Councils responsible for town water supply commonly have drought management plans that include how water will be supplied in extreme events. These include measures such as backup supplies from groundwater, and plans for emergency infrastructure if needed. DPI Water will assess whether further measures are warranted as part of developing the Regional Water Strategy. A state-wide approach for the management of extreme events is being developed by DPI Water for consultation.</p>	<p>In line with Centroc Board resolve Central NSW region Councils are keen to influence outcomes in support of its communities and would like an opportunity to be able to do so.</p> <p>We are unclear from the content of this Status and Issues paper as to the opportunities for engagement and as detailed in correspondence to DPI Water (18 October 2016- see copy attached) seek a targeted consultation with Local Government in the region or representation on the Strategic Advisory Panel for the Lachlan Water Resource Area.</p> <p>With extensive experience and maturity in water resource management and planning Centroc welcomes the opportunity to work in partnership with DPI Water in the developments of a Regional Water Strategy.</p>
<p>Review water sharing arrangements during extreme drought.</p> <p>The Lachlan CSC has developed a drought management protocol and proposes that</p>	<p>A WRP is required to provide detail on how the water resources will be managed during an extreme dry period. DPI Water is currently developing a policy which will</p>	<p>With extensive experience and maturity in water resource management and planning Centroc welcomes the opportunity to work in partnership with DPI Water in the developments of a Regional Water Strategy.</p>

this is included in the Lachlan WSP.	inform the water resource plans on this matter. The CSC protocol will be considered in light of the policy.		
Draft objectives for the water resource plan with related strategies			
BROAD OBJECTIVES	TARGETED OBJECTIVES	PROPOSED STRATEGIES	CENTROC COMMENT
ENVIRONMENTAL Maintain or enhance the ecological condition of this water source and its dependent ecosystems (instream, riparian and floodplain) over the long-term	Maintain or improve population structure of native fish in medium and high value unregulated water sources Maintain or improve population structure of native fish in the regulated Lachlan River Maintain or improve population structure of native fish in the regulated Belubula River Maintain or improve the transport of carbon and other nutrients through the Lachlan and Belubula regulated	<ul style="list-style-type: none">● Protect low flows and/or pools● Maintain a diversion limit● Restrict trading into water sources <ul style="list-style-type: none">● Protect a proportion of medium to high flows● Maintain an environmental water allowance and provision for held environmental water, and facilitate their effective use● Maintain an end of system flow● Maintain a diversion limit <ul style="list-style-type: none">● Maintain a diversion limit● Protect a portion of tributary inflows <ul style="list-style-type: none">● Protect a proportion of medium to high flows (Lachlan)● Protect a portion of tributary	

	<p>river systems and into the wetlands of the mid and lower Lachlan</p> <p>Maintain or improve the connectivity and dispersal potential of fauna within unregulated water sources and between unregulated and regulated water sources</p> <p>Maintain or improve the quantity, diversity and water quality conditions of low flow refugia habitats</p> <p>For wetlands and other water-dependent ecosystems, maintain quality of water sufficient to protect and restore the ecosystems</p>	<p>inflows (Belubula)</p> <ul style="list-style-type: none"> ● Maintain an environmental water allowance and provision for held environmental water, and facilitate their effective use (Lachlan) ● Maintain diversion limits (Lachlan and Belubula) <ul style="list-style-type: none"> ● Protect low flows and/or pools ● Protect a proportion of medium to high flows (Lachlan) ● Protect a portion of tributary inflows (Belubula) ● Maintain diversion limits <ul style="list-style-type: none"> ● Protect low flows and/or pools ● Maintain the water quality allowance and facilitate its effective use <ul style="list-style-type: none"> ● Identify and encourage cost-effective measures to address identified medium and high risks to ecosystems related to water quality degradation, and to contribute to achieving the defined targets where they are not being met ● Consider effect on water quality in any proposed changes to water management for other purposes ● Maintain the water quality allowance and facilitate its effective use 	
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			<p>water needs.</p> <p>And added the following two points:</p> <p>e) The Centroc Board, Belubula Landholders Association and Lachlan Valley Water welcome the announcement of GHD as the strategic partner to assist WaterNSW with the Phase 2 feasibility study on the proposed dam site on the Belubula River. These organisations expect that the outcome of the study will be progressed to ensure an informed decision is made regarding options for a new storage in the Lachlan catchment.</p> <p>f) A new storage in the upper reaches of the Lachlan catchment will have community wide benefits through flood mitigation in the Lachlan and Belubula River valleys with the costs to State government for the repair of flood damaged infrastructure offset by the costs of the operation of the dam.</p>
<p>Maximise the economic benefits derived from water-dependent commercial and industrial enterprises</p>	<p>Maintain or improve water quality to minimise crop yield loss or soil degradation when used in accordance with best irrigation and crop management practices</p> <p>Ensure sufficient water is available to local water utilities in the</p>	<ul style="list-style-type: none"> ● Implement the Basin Salinity Management Strategy 2030 ● Maintain the water quality allowance and facilitate its effective use ● Provide for growth in local water utility entitlement 	<p>See above</p>

		<p>allowance and provision for held environmental water, and facilitate their effective use</p> <ul style="list-style-type: none"> ● Maintain an end of system flow ● Maintain a diversion limit 	
	<p>Maintain or improve population of fish in the regulated Belubula River</p>	<ul style="list-style-type: none"> ● Maintain a diversion limit ● Protect a portion of tributary inflows ● Maintain a diversion limit 	



Centroc
Forbes Shire Council
PO Box 333
Forbes NSW 2871

Chairman: Cr Bill West, Mayor, Cowra Council

4 November 2016

Reference bw:vp 111604
Enquiries: Ms J Bennett:

Water Project Officer
Environmental Health and CAM Section
NHMRC
GPO Box 1421
Canberra ACT 2601

To whom it may concern,

Re: Australian Drinking Water Guidelines: Draft framework on microbial health based targets

Central NSW Councils (Centroc) represents over 243,000 people covering an area of more than 72,500sq kms comprising the Local Government Areas of Bathurst, Blayney, Cabonne, Cowra, Forbes, Hilltops, Lachlan, Lithgow, Mid-Western, Oberon, Orange, Parkes, Upper Lachlan, Weddin, and Central Tablelands Water.

It is about the same size as Tasmania with half the population and a similar GDP.

Centroc's vision is to be recognised as vital to the sustainable future of NSW and Australia.

Its mission is to be recognised as the lead organisation advocating on agreed regional positions and priorities for Central NSW whilst providing a forum for facilitating regional cooperation and sharing of knowledge, expertise and resources.

Centroc has two core objectives:

3. Regional Sustainability - Encourage and nurture suitable investment and infrastructure development throughout the region and support members in their action to seek from Governments financial assistance, legislative and/or policy changes and additional resources required by the Region.
4. Regional Cooperation and Resource Sharing – Contribute to measurable improvement in the operational efficiency and effectiveness of Member Councils through facilitation of the sharing of knowledge, expertise and resources and, where appropriate, the aggregation of demand and buying power.

The Centroc Board is made up of the 30 Mayors and General Managers of its member Councils who determine priority for the region. These priorities are then progressed via sponsoring Councils. For



more advice on Centroc programming and priorities, please go to our website

<http://www.centroc.com.au>

Centroc has a proud track record in devising and delivering innovative cutting-edge regional programming. It succeeds through the good will and industry of its members and staff working collaboratively to the benefit of the region and its communities.

Centroc Water Utilities Alliance

In NSW, Local Government owned water utilities provide water and sewerage services, delivering public health outcomes for regional NSW.

Local Government management of water utilities in Central NSW including the delivery of quality drinking water is being undertaken on a solid basis through the Centroc Water Utilities Alliance (CWUA)

Formed in 2010, the Centroc Water Utilities Alliance aims for Local Government to be recognised as national leaders in delivering secure and quality water supplies and sewerage services to grow Central NSW to 2059 and beyond.

The CWUA's strategic approach delivers effective and efficient services through:

- Regional strategic planning and prioritisation
- Inter-governmental collaboration
- Regional leadership and advocacy
- Operational support to member Councils.

Recognised by the Productivity Commission, CWUA achievements include:

- Collectively saved members in excess of \$600k
- Attracted over \$3m in grant funding for programming
- 100% Compliance in Best Practice management plans
- Completed regional Integrated Water Cycle, Drought, Demand Management and Strategic Business Plans
- A Regional Priority Water Infrastructure Plan to inform investment
- A Training and Mentoring Workforce Resource Sharing Plan
- Compliance based training in drinking water quality to over 70 water operators
- Formation of a Centroc Operators Group for training, mentoring and skills development of Water and Waste Water Treatment Operators meeting quarterly.
- \$40k in Skill Set funding for a pilot Workforce Development Program aimed at certification of water treatment operators under the National Certification Framework at 4 member

Councils resulting in 14 Water Operators achieving qualifications required to meet Certification with further roll-out underway.

Drinking Water Management Systems

The supply of quality drinking water to Central NSW communities is of the highest priority for Centroc member Councils who are supported in achieving this through the CWUA with the following:

- A Drinking Water Quality Working Party acts in an advisory capacity monitoring progress to achieving regional compliance with the Public Health Act and Australian Drinking Water Guidelines (ADWG).
- Implementation of a process for monitoring and reporting progress on Drinking Water Management Systems Plan implementation and co-ordinating regional response to issues.
- Training procured on a regional basis through accredited industry specialists on Water Sampling and the ADWG for Water Operators and Managers to ensure best practice and compliance based delivery of safe, quality drinking water.
- Implementation of a bi-monthly process for communication by NSW Health at a regional level on issues regarding compliance and other State managed programming relating to drinking water quality.
- In keeping with the principles of the CWUA to encourage capacity building through shared learning, Drinking Water Management is a regular agenda item at bi-monthly CWUA meetings where members are encouraged to share advice on specific water quality issues, technologies implemented to improve water quality and tools such as templates or protocols developed for water quality management.

Projects currently underway:

- A one-off project to analyse regional drinking water quality data to benchmark the performance of CWUA member Councils in drinking water quality management across the region and against relevant benchmarks for a period of five years. This project will inform an annual Regional Drinking Water Management Work Plan identifying and prioritising activities aimed at achieving best practice in drinking water management.
- Applying a strategic risk based approach, a suitably qualified consultant is being procured to facilitate a workshop with CWUA LWUs and NSW Health representatives to develop a shared understanding and alignment of communication in the compliance framework. Specific considerations are incident management and boil water alerts. Advice from this will inform tools and protocols to facilitate a more effective and efficient collaboration between NSW Health and Centroc members LWUs in the Central NSW region.

In the context of Local Government reform in NSW, the CWUA demonstrates the efficiencies of co-operative partnerships in delivering the National Water Initiative strategic agenda. Programming is innovative and focused on compliance based best practice service delivery to achieve optimal outcomes for communities.

COMMENTS ON THE DRAFT FRAMEWORK ON MICROBIAL HEALTH BASED TARGETS

1. Background

The National Health and Medical Research Council (NHMRC), authors of the *Australian Drinking Water Guidelines* are proposing the inclusion of microbial health based targets (HBTs) with draft wording outlined in the *Draft Framework on microbial health based targets* (draft HBT framework).

The draft HBT framework lays out several options for water utilities to meet the HBTs.

For smaller utilities this could involve using default treatment processes based on categorising the type of water source. For more technically advanced utilities a more system-specific approach using water supply-specific monitoring data (where this exists) can be used. For utilities that do not meet the existing standards in the ADWG, the HBT framework describes a water safety continuum, where the utility can plan improvements to its operation in order to work towards the goal of safer water and best practice.

The NHMRC is seeking public comment on the draft HBT framework. Centroc's views are summarised in this document.

1.1 Overview

The Centroc Water Utilities Alliance (CWUA) welcomes the opportunity to make a submission. As detailed above, the delivery of safe, quality drinking water to the communities of Central NSW is of the highest priority for the CWUA with Centroc councils steadily working towards improvements in Drinking Water Quality Management through implementation of a program of regional initiatives.

Centroc support the approach of the HBTs and improved water quality and lower health risks for all Australian potable water systems. However, capital and operational cost implications and the practicalities of implementing the new approach need to be closely considered.

The CWUA membership supports overarching comments made in the submission by the NSW Water Directorate that the evidence on which the *Draft Framework on microbial health based targets* is based is currently insufficient to justify the potentially enormous infrastructure investment that would be required to meet the Framework.

Specific concerns raised by the Water Directorate and supported by the CWUA are that:

- Typical catchments for western NSW were not well considered in the Deere et al (2014) paper on which the bin or category classification is based;
- No credits are given for environmental land and water inactivation of pathogen infectivity;
- There is little recognition of the proximity of the activity relative to the source water offtake, particularly for run of river systems.

Centroc have a number of additional concerns on the implications of the draft HBT framework being implemented. These include the investment required to comply with the framework, the amount of monitoring and data collection required, the discrepancy between catchment categorisation based

on sanitary survey versus faecal indicators, and the insufficient data available at this time to provide a complete HBT approach.

Representing 14 Local Government Local Water Utilities in regional NSW with a range of water supply systems, Centroc would also be very happy to participate in pilot projects to investigate the issues HBT implementation may bring.

2 Issues

2.1 Investment Requirements

2.1.1 Draft HBT Framework Position

The requirements as laid out in the draft HBT framework are expected to require significant capital investment in new infrastructure and improvements to existing facilities, as well as ongoing operational costs.

Additional evidence needs to be provided to support the health benefits suggested, and in comparison with other health issues in regional communities. There is largely more community support for improving access to medical facilities, suicide prevention and drug addiction. Money spent in these areas may give a better microDALY risk reduction return.

2.1.2 Centroc

In order to achieve the HBTs each water supply system is likely to require multiple capital and operational improvements as indicated in the WRA/WSAA publication “Good Practice Guide to the Operation of Drinking Water Supply Systems for the Management of Microbial Risk Research Project 1074” possibly including:

- additional flow meters, control valves and pump VSDs to extend and smooth WTP operation. This also likely to require additional operational staffing;
- additional online monitoring and control possibly requiring PLC and software upgrades;
- improved coagulation and pH system control and operation;
- potential additional polymer dosing to improve clarifier performance in addition to optimised operation of clarifiers;
- in many cases filter media replacement and improved filter operation and monitoring with automated backwashing systems included;
- wastewater system management and improved recycling control and sludge management;
- improved disinfection systems and monitoring;
- additional UV disinfection systems in most cases;
- priority alarm systems with automatic shutdowns and operator call outs; and
- operator training and higher levels of operator attendance.

While all of these improvements are beneficial and Centroc supports their implementation in order to reduce consumer health risk, the additional capital and operating cost associated with this is likely to run into millions of dollars for each water supply system. Centroc has more than 30 water supply systems between its member water authorities. The funding required will easily run into the tens of

millions of dollars for Centroc councils and consideration will need to be given to where this funding is likely to be sourced from.

It is recommended that funding sources for implementation are considered together with water quality / technical issues, and suggest that the State Government collaborate with Centroc in delivering a practical change process.

How will state and possibly federal governments manage the additional funding that will be required? In NSW, the NSW Country Towns program ceased further funding applications a long time ago. We understand that Infrastructure NSW is planning on distributing funds for various water projects in the future but the process of applying for funding needs to be made clear. Local Government is unlikely to be able to provide such levels of funding on its own.

2.2 Data Collection and Monitoring

While Centroc councils are steadily working towards improvements in Drinking Water Quality Management including data collection and monitoring, currently few would have the level of data required to be able to best evaluate their own catchments and treatment ability.

Section 5.7.5 of the draft *Framework on microbial health based targets* guides water utilities to be conservative when assessing source water for categorisation when there is a lack of data to support a full risk assessment. This guidance will result in potentially higher than necessary treatment requirements, resulting in inflated operational and infrastructure expenditure. Water utilities that do not have the population to support greater data collection and monitoring are not likely to be able to support these additional expenditures.

Additional support should be provided to these water utilities to ensure an accurate assessment is able to be made and capital expenditure therefore minimised.

2.3 Source Water Assessment

2.3.1 Source Water Assessment Methodology

When determining the source water classification a vulnerability assessment is completed; this aims to highlight weak areas in a system and to place the source water into one of four categories. Next, a Microbial Indicator Assessment is undertaken, whereby E.Coli data from raw water immediately prior to treatment is used to either confirm the vulnerability assessment or help decide between categories when the vulnerability assessment is not conclusive (See Table 1 and explanation below)

Table 1: Comparison of E.coli concentration with sanitary inspection category

Source Category Vulnerability Assessment	Microbial indicator concentration category Maximum E.coli per 100 ml			
Category	≤20 Category 1	> 20 ≤ 2,000 Category 2 & 3	>2,000 ≤ 20,000 Category 4	>20,000 Not suitable for drinking
1	Source = Cat 1	Source = Cat 2	Anomalous	Not suitable
2	Source = Cat 2	Source = Cat 2	Anomalous	Not suitable
3	Anomalous	Source = Cat 3	Source = Cat 4	Not suitable
4	Anomalous	Source = Cat 4	Source = Cat 4	Not suitable

- If E.coli data and vulnerability assessment plot in a green box, the two assessments are consistent and the likelihood the category is correct is high.
- If E.coli and vulnerability assessment plot in an amber box, the results are feasible however there is a lower degree of confidence. E.coli data and sanitary survey should be re-examined to achieve better alignment or better understand the reason for the results.
- If the data plots in a red area then the data is anomalous and the categories should not be accepted. The process needs to be reassessed.

Interpreting Results – If E.coli reading ever fall above the microbial indicator concentration, the source water should be moved up a category so that it is treated adequately. However the inverse is not true. If a Category 4 source tests below 20 000 cells per 100 ml it should not be moved down in category. This follows the second principle in the ADWG to always be on the conservative side

2.3.2 Centroc Council's Source Water Assessment

Due to the lack of exclusion zones and prevalence of cattle in most of Centroc member Councils' catchments, applying the above vulnerability assessment methodology would result in most systems being placed into category 4. However, the microbial indicator assessment would place the same councils in category 2 or 3, and sometimes even into category 1. Faecal Coliform samples taken from one of the Centroc Council's raw water intakes (a large dam) between January 2009 and October 2016 were mostly below 60, with only some results from storm events reported as 'too numerous to count'. Yet this catchment is large and includes cattle and sheep farming and would likely be Category 4 otherwise.

2.4 USEPA SWTR

The United States Environmental Protection Agency have employed a similar system to the proposed HBT strategy for several years as part of their Surface Water Treatment Rules (SWTR), and lessons can obviously be learnt from their approach and experience.

Additionally, the USEPA's SWTR were implemented at different rates and to different degrees depending on the size and financial capability of the various water authorities. Well financed, larger organisations can typically achieve higher targets much more rapidly than small remote ones. The larger organisations often also have voluntarily started putting new strategies into practice earlier, which puts them much closer to the end result than the smaller organisations by the time they are officially documented.

The SWTR also contain detailed tables so that calculation of LRV for viruses, bacteria, Giardia and Crypto can be readily calculated.

2.5 Turbidity

Table A5.4.1 in the draft HBT framework provides default LRV credits for various methods of filtration including direct and conventional filtration. Both of these filtration processes have 3 tiers of credits based on given individual filtrate turbidity targets, ≤ 0.15 NTU, ≤ 0.2 NTU and ≤ 0.3 NTU (for 95% of the month, and not > 0.5 NTU for 15 consecutive minutes), however no LRVs at all are given if turbidity is greater than these values. Disinfection is compromised when turbidity is > 1 NTU, therefore a sliding scale of LRV credits should be considered for 0.1 - 1 NTU.

Another consideration is the percentiles provided in the draft framework. Currently credit is only given if a target is met 95% of the month, however reduced LRV could be given if the percentiles are slightly reduced. A sliding scale between 75% and 100% would achieve this.

Many Centroc plants typically achieve 80% compliance with <0.5 NTU noting that whilst the data is compiled from results in the reticulation system, it is indicative nevertheless. This shows that more informed work needs to be undertaken with Centroc willing to work in partnership with the State Government to pilot this.

2.6 Other Factors

Turbidity is only an approximate measure of water quality and health and other parameters can be relevant also. Significant focus should be given to disinfection efficacy in the HBT process, including:

- Average chlorine residual and contact time;
- Average Ozone residual and contact time;
- UV dose and water clarity, etc.

In particular, several factors may contribute to health risk minimisation including:

- Large storage reservoirs (which can be improved by destratification or longer retention times);
- Pre-treatment (pre-chlorine, pre-ozone, settling);
- Optimisation techniques (such as those found in Water Research Australia's *Good Practice Guide to the Operation of Drinking Water Supply Systems for the Management of Microbial Risk - Research Project 1074*);
- Continuous operation without stopping and starting the WTP too often;
- The practice of not recycling waste water to the head of works or managing that recycle; and
- Avoiding extracting water from storm surges of poor quality raw water.

Additional treatment factors should be assigned default LRV credits and added to Appended section 5.4 in the draft HBT framework.

2.6.1 Stormwater and Extraction

The greatest health risk is usually associated with storm surges through a surface water system. The peak of the storm surge is typically laden with pathogens and impurities.

Key considerations during storm surges are:

- To let the high-risk storm surge pass as it may only last a few hours;
- Significant changes to WTP operation are required during this period and the operators need to be available and focused on the water treatment process in order to provide good quality water throughout;
- The WTP may need to operate at significantly reduced rates to cope with decrease in water quality;
- Plant specific historical records should be readily available and/or control systems which can help get to optimised operation very quickly;
- Early warning monitoring from rain gauges or in-river monitoring can warn operators to prepare for the event;
- Standard Operating Procedures (SOPs) for such events assist greatly and are better than using an ad hoc approach.

2.6.2 Water Recycling

Recycling wastewater to the head of the WTP saves water and often the environment but requires careful management to minimise health risk from recycled pathogens and possible other contaminants such as BGA toxins.

2.7 Reticulation Systems

The towns' reticulation needs to be appropriately maintained to minimise harbouring of potential pathogens. Chlorine can also be rapidly consumed in dirty reticulations, especially those with elevated pH. SOPs for mains repairs and disinfection, and minimising illegal connections are additional factors worthy of consideration.

2.8 Groundwater

Aquifers can be of various conditions and ages and should be assessed thoroughly in the HBT process. The bores may tap into slow or fast moving groundwater that may have been filtered through bedrock or not; the purity varies greatly. An assessment should be made including evaluation of the bore itself, especially whether it is locked off and excluded from any potential surface water incursions, especially during flooding.

3 Conclusions

Centroc provides qualified support for the introduction of HBTs noting that the following is needed:

- a well-considered approach covering as many relevant factors as possible;
- adequate support information to enable their implementation;
- a program of the rollout of compliance with HBTs with timing scaled for different organisations; big and small, remote and otherwise ;
- a plan of how funding will be provided by local, state and federal governments that considers collaboration with LWU's and alliances such as Centroc; and
- how the HBTs will be managed and enforced; can alternative approaches be taken or justified?

With drinking water quality for communities of Central NSW of the highest priority for the Centroc Board, at the October 2016 meeting, Centroc General Manager's resolved support for this region to work in collaboration with appropriate agencies to pilot a more informed approach to the proposed implementation of the HBT framework, including:

1. Examples of more remote and smaller water supply systems;
2. Examples of larger more high technology systems;

And in each case:

- what operational improvements can be made through training and optimised focus on issues with minimal capital improvement;
- what smaller cost capital improvements can be made that provide significant improvement;
- what larger capital and operational expenditure may be justified.

Thank you, again, for the opportunity to provide comment on the Draft Framework on Microbial Health Based Targets.

If you require further information or clarification on comments in this submission please contact Ms Meredith Macpherson, Program Manager , Centroc Water Utilities Alliance

Yours sincerely

Cr Bill West

Chair

Central NSW Councils (Centroc)