

Water Allocation Plan for the River Murray Prescribed Watercourse Upper Pike River Anabran



Background

The upper Pike River anabran is a unique area located in the Riverland region of South Australia with significant ecological value, and also high social and economic value. The anabran supports an extensive irrigation industry, as well as important environmental assets.

Modifications within the anabran system have meant that the natural variability of the system has changed, which has resulted in the ecological health of the floodplain declining over time.

Water from the upper Pike River anabran is used to supply local stock and domestic water and irrigation water. Problems with quantity and quality of water supply for irrigation in the upper Pike River are ongoing.

The anabran is hydraulically unique which makes it vulnerable – if extraction were to exceed inflows then water users could be left without access to water. No other major irrigation area in the SA Murray-Darling Basin region experiences these conditions.

The local community has been active in developing strategies to address the issues facing the Pike River area, and the anabran is now a priority site for rehabilitation and protection. Significant investment is being made through the Riverine Recovery Project (RRP) and the SA Riverland Floodplains Integrated Infrastructure Program (SARFIIP). These projects aim to improve flows into the upper Pike River anabran, and to support more natural flow regimes to improve the health of the site and water quality.

The Water Allocation Plan for the River Murray Prescribed Watercourse (the Plan) introduces an extraction limit for the Upper Pike River Extraction Management Zone to support the outcomes of the environmental works.

The extraction limit aims to protect existing users and the environment by ensuring that water use is sustainable into the future.



Government of
South Australia



Natural Resources
SA Murray-Darling Basin

What is included in the Plan?

An extraction limit for the upper Pike River anabranch

The Plan introduces an extraction limit within 17.8GL per annum (equal to the total site use approval volume held as of 3 October 2017). This means that no more than this volume can be taken from the upper Pike River anabranch in any one year.

This extraction limit will be shared out amongst existing water users, with an individual extraction limit being based on the current site use approval volume held by each water user as of 3 October 2017. Those who hold a site use approval volume already have the right to use a volume of water, and that volume will become the new extraction limit for the user.

An extraction limit is considered the most suitable way to protect the water resource for the benefit of existing water users, the environment, and the community. The upper limit of 17.8GL was chosen based on modelling which showed that environmental flow measures are met if extraction was equal to the existing levels of approvals.

A monitoring trigger to review the policy in the future

A monitoring trigger has been included in the Plan so that a review will be undertaken if extraction reaches 80% of the extraction limit, or in five years' time, whichever is sooner. When the review is triggered, monitoring and water use data will be analysed to see whether the environment is improving as expected using the environmental infrastructure. If it is not improving – there is an opportunity to revisit the policy and work with the community to investigate solutions. The review is a chance to verify the extraction limit and the modelling and to test whether the policy is working.

New stock and domestic pumps

If there is no other suitable source of water available, stock and domestic water supplies may be accessed from the upper Pike River anabranch. This recognises that some properties in the Pike area are a long way from the main river channel (up to 7 km away) or other sources of water, and unlike other anabranch systems in the river, there is more certainty around how water levels will be managed in this area. This means that pumping infrastructure will need to operate within variable water levels and not affect the operation of the Pike Environmental Regulator.

If I take water for irrigation from the upper Pike, how does this affect me?

Authorisation holders in the upper Pike River anabranch will be provided with an individual extraction limit on their water resource works approval – the total of the approvals will be within 17.8GL. The extraction limit for each authorisation holder will be the site use approval volume held as at 3 October 2017.

The extraction limit will now be the limiting factor on water use – even if site use approvals increase and allocations increase, water can only be taken up to the extraction limit.

Water use is currently around 50 per cent of the total site use approval volume. This means there is still capacity in the system, and within individual extraction limits, for water use to increase at the same time as allowing the environment to receive the water it needs.

Can I increase the area of land that I irrigate?

You can continue to use water up to the volume that you held on your site use approval as at 3 October 2017 (this will be your new water resource works approval volume). You can change crops or water a larger area of land, provided your water use stays within this volume.

If you want to increase the amount of water that you use to irrigate, you will need an allocation, a site use approval and a water resource works approval that allows the higher volume to be used.

To increase the volume on your water resource works approval, you will need to source an extraction volume from another water user within the upper Pike River anabranch. The total volume approved for all approval holders cannot exceed 17.8 GL but volumes can be moved around within this upper limit.

If you increase the volume on your site use approval through changes to the salinity zoning policy, you will also need to increase the volume on your water resource works approval as this will be the volume that you can take out of the upper Pike River anabranch.

How was the extraction limit developed?

The Pike community has been a key advocate for a healthy Pike floodplain and improved water quality for the environment and existing users. The Board worked with the Pike Community Reference Committee (CRC) and the Pike community to develop the policy for water use from the upper Pike River anabranch. The Board also consulted with the broader community on the policy, and community views helped to finalise the policy.



The science and modelling

Modelling was undertaken to help identify a sustainable extraction limit – a volume that can make sure the environment receives the flows that it needs to recover, and that businesses in the area can continue to develop and use water for economic purposes.

Modelling was initially undertaken in 2014 based on flows of 300 ML/day through the system. The modelling was re-run taking into account the expected flows of 400 ML/day through the system, due to the use of regulators.

Modelling in 2017 indicates that extraction can be increased up to current site use approval volumes (122 ML/day or 17.8 GL/pa) without negative ecological consequences. This means there is room for more development in the system within existing site use approval volumes because only half of the total volume held on approvals is currently being used.

The current site use approval volume is considered to be the maximum volume that can be sustainably extracted from the system now. This is because if more than this volume is applied to the land it has the potential to undermine the salt interception scheme (refer to the heading Environmental Projects for more information). Modelling will need to be tested over time by monitoring environmental condition, once regulators and the salt interception scheme are in place and operational.

Why does there need to be an extraction limit?

If action is not taken now then there is a risk that irrigation development will increase. If too much water is taken from the upper Pike River anabranch, this could cause negative impacts to existing users and the environment. Many activities are underway to improve the health of the floodplain and water management policy is also needed to help the environment and protect existing users.

Changes to the salinity zoning policy have been introduced to make it easier to develop properties along the River Murray, but this is a risk for the upper Pike River anabranch. If site use approval volumes increase in this area, and more water is taken from the anabranch, this could put the health of the area at risk. There is room for further development within existing site use approval volumes, because only half of the approved volume is currently being used.

Environmental projects

Construction of regulators and a salt interception scheme have resulted from the community wanting to see issues in the area improved.

Regulators (weirs) will help to improve the flow pattern and extent and duration of flow events (including on the floodplain) to improve ecological condition.

In the future, with new regulators in place, it is expected that on average 400ML/day (up from current volumes of 300ML/day) will flow into the Upper Pike River.

A salt interception scheme is also being constructed to intercept salt before it reaches the river and causes further damage to the floodplain. The salt interception scheme will act to offset salinity impacts caused by irrigation. Reducing the salinised area of the floodplain aims to complement the use of regulators to improve the current ecological condition.

The expected capacity of the salt interception scheme is to enable interception of up to 122 ML/day of saline groundwater. This volume reflects the site use approval volume as at 3 October 2017. It should be noted that the scheme is not yet constructed and testing of the scheme will determine whether 122 ML/day can physically be intercepted.

Policy in the Plan is important to ensure the investment to improve ecological outcomes of this area is not undermined.

I want to find out more about....

How to vary my water resource works approval, please contact the DEW Berri Office:

T: (08) 8595 2053

E: dewaterlicensingberri@sa.gov.au

Site use approvals and the salinity zoning policy, please contact the DEW Berri Office:

T: (08) 8595 2053

E: dewaterlicensingberri@sa.gov.au

Or visit:

www.naturalresources.sa.gov.au/rivermurraywap

The Riverine Recovery Project, please contact DEW:

T: (08) 8463 6505

Or visit:

<https://www.environment.sa.gov.au/managing-natural-resources/river-murray/improving-river-health/riverine-recovery-project>

The Water Allocation Plan for the River Murray Prescribed Watercourse:

T: (08) 8463 6877

E: rmwap.feedback@sa.gov.au

Or visit:

www.naturalresources.sa.gov.au/rivermurraywap



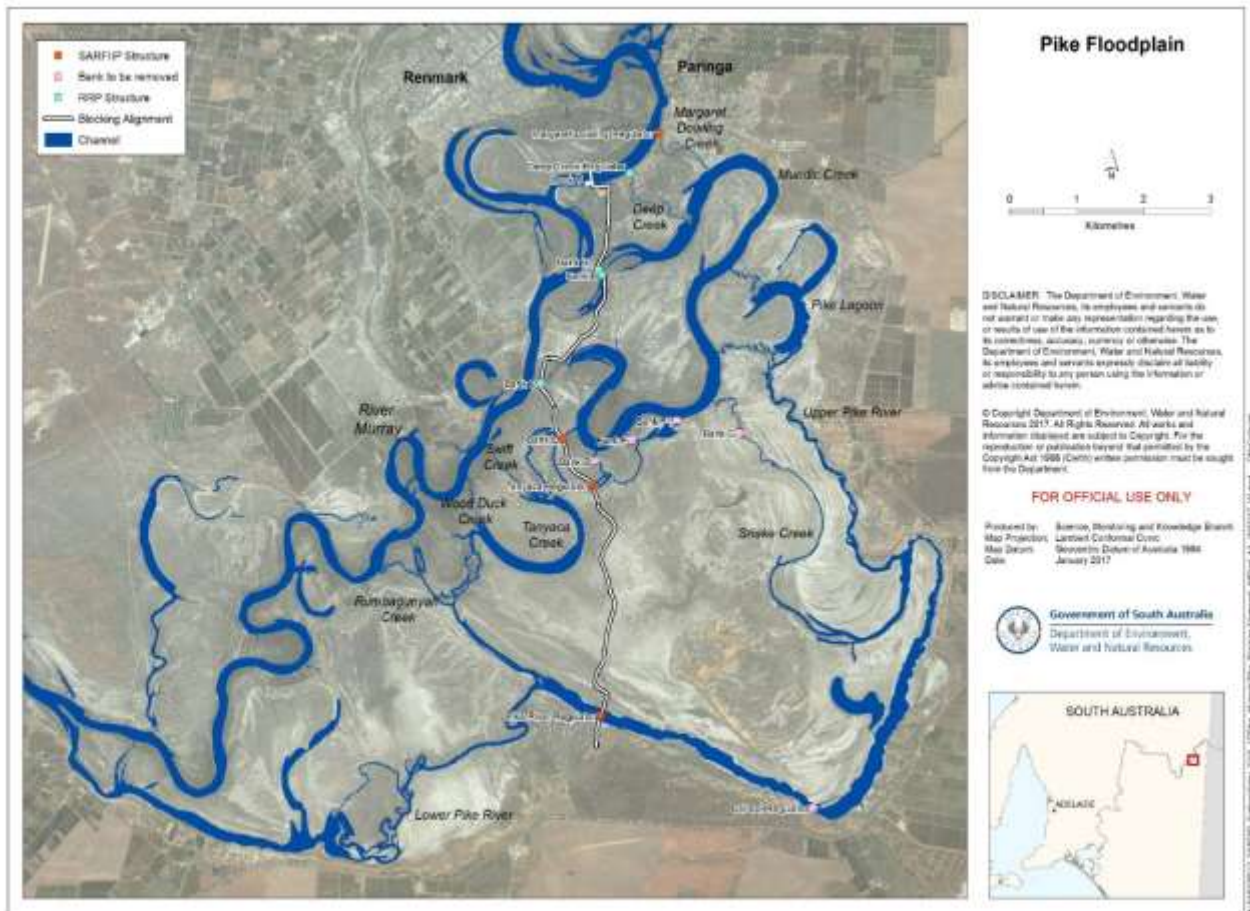


Figure 1 - Map of the Pike Floodplain