Planning and Environment

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Yanco Creek Modernisation Project Overview

About the Sustainable Diversion Limit Adjustment Mechanism (SDLAM)

Yanco Creek

The Sustainable Diversion Limit Adjustment Mechanism (SDLAM) is a program designed to achieve similar or improved environmental outcomes for rivers, wetlands and wildlife. SDLAM can be achieved through supply or efficiency measures. Supply measures involve improvements to the way rivers are managed, while efficiency measures involve activities to change water use practices, to save water for the environment.

Under the Murray-Darling Basin Plan, states and the Australian Government agreed a package of 36 SDLAM projects across the southern-connected Murray-Darling Basin, with the aim of recovering 605 GL of water each year for the river system. NSW is involved in 21 of these projects in the Murray, Murrumbidgee and Darling Valleys.

The SDLAM Acceleration Program

To date, 12 of NSW Government's SDLAM projects are complete or nearly complete and are delivering Basin Plan outcomes. The water recovered through these projects is already having positive impacts for Basin communities.

Building on this progress, the NSW Government announced it will bring forward $330 million worth of its remaining SDLAM projects through the NSW SDLAM Acceleration Program. This program removes barriers and streamlines construction funding arrangements to allow the delivery of five projects, including the Yanco Creek Modernisation Project, by June 2024.

For more information on the acceleration program visit dpie.nsw.gov.au/sdlam

About the Yanco Creek Modernisation Project

The Yanco Creek Modernisation Project is progressing the modernisation of infrastructure to enable smarter use of water in the Yanco Creek system – including Yanco, Billabong, Colombo and Forest Creeks.

It encompasses a series of initiatives aiming to improve water management as part of commitments within the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) program. The SDLAM program is being delivered by the NSW Government with funding provided by the Australian Government under the Murray-Darling Basin Plan.

The project aims to:

- create a community and government partnership to maintain and improve flows
- keep the Yanco, Billabong, Forest and Colombo Creeks flowing
- be smart in the use of available water
- modernise ageing infrastructure
- ensure project benefits for irrigators, town water supplies, native fish, water birds, culture and heritage, and recreational use.

Spillers Regulator

Project benefits

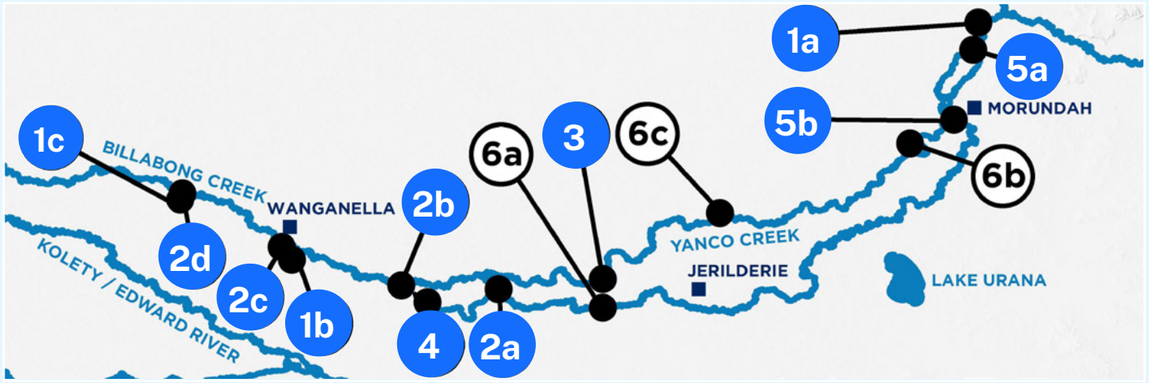
The project focuses on delivering equivalent and/or improved environment outcomes through infrastructure and smarter use of water.

Some of the expected benefits in the Yanco, Billabong, Forest, Colombo Creek and Murrumbidgee systems include:

- more efficient delivery of environmental water
- improved fish passage (e.g. new fish ladders)
- improved knowledge and understanding of First Nations cultural heritage
- improved Connection-to-Country by Traditional Owners
- an economic, training and employment boost for local communities
- improved levels of service for water users (e.g. more flexible irrigation scheduling)
- a reduced risk of further non-strategic water market purchases from the southern-connected Basin to meet Basin Plan commitments.

The Yanco Creek Modernisation Project is also progressing the construction of fish ladders to restore fish passage between water bodies - to enable native fish to safely bypass obstacles such as weirs and other fish barriers. By re-establishing these travel corridors, native fish species will have greater connectivity to habitat and breeding areas.

Project parts



The project is made up of eight project parts along the length of the Yanco Creek system. The scale of the project includes building new assets, replacing ageing and inefficient infrastructure and removing structures hindering water flow through the system.

1 Part 1: Environmental water efficiency works and measures

There are three high value environmental areas proposed for improved works and measures:

- Upper Yanco Wetlands **(1a)**
- Wanganella Swamp **(1b)**
- Lower Forest Anabranch **(1c)**.

This sub-project aims to improve environmental outcomes for native birds, fish and other fauna and vegetation, and improve the efficiency of environmental water use. This will be achieved through the construction of improved flow and regulating infrastructure.

2 Part 2: Billabong Creek re-regulation weirs

This sub-project proposes to replace four existing weirs in Billabong Creek with new fully automated, remote-controlled re-regulation weirs that would also include fish ladders.

The proposed weir locations are:

- Hartwood Regulator **(2a)**
- Piccaninny Regulator **(2b)**
- Wanganella Regulator **(2c)**
- Caroonboon Regulator **(2d)**.

The upgrade of this ageing infrastructure will allow water flows to better meet irrigation and environmental water requirements and reduce unplanned end of system flows in the Billabong Creek at Darlot.

3 Part 3: Yanco / Mundoora / Wilsons Anabranch improvements

This sub-project will look at improving infrastructure to improve environmental water delivery arrangements in the Yanco Creek/Mundoora/ Wilsons Anabranch areas. This area has a high environmental value and is described as the Kakadu of the Yanco Creek system. The project seeks to identify options to improve fish passage and environmental watering.

Hartwood Weir

Further studies into the feasibility and the environmental benefits of options include:

- remote control lay flat gate(s) to better control and measure inflows to Wilson's Anabranch
- remote control lay flat gate(s) to provide connection for fish passage at the downstream end of the Wilson's Anabranch
- potential options for flow improvement and re-regulation storage in the Yanco Creek/Mundoora/ Wilsons Anabranch areas.

4 Part 4: Forest Creek return flows via Piccaninny Creek

This sub-project seeks to reduce water losses through diverting unplanned flows in Forest Creek, downstream of the existing Warriston Weir, into Piccaninny Creek and back to Billabong Creek. It would achieve this by replacing the existing Piccaninny Creek Offtake with a new fit-for-purpose regulator (including flow measurement) and access arrangements. Consideration will also be given to new infrastructure to reduce the amount of water losses in the form of seepage and evaporation in the top sections of Piccaninny Creek, thus providing additional water to meet environmental water requirements.

5 Part 5: Improved flow measurement

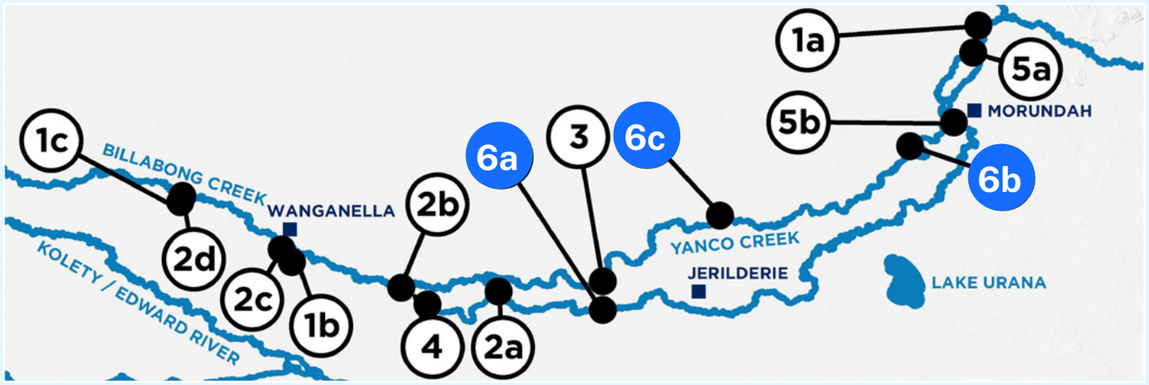
This sub-project will involve the establishment of additional and/or upgraded water flow measurement at strategic locations throughout the Yanco Creek system.

Up to eight new flow measurement points will be established at strategic locations throughout the system to enable river operators to better match creek flows with irrigation and environmental water requirements.

This includes measuring water flows downstream of Spillers Regulator (5a) from the Yanco Creek into Washpen Creek, and downstream of an existing offtake pipe from Colombo Creek into an unnamed water course often referred to as 'Cheverells Creek'. Flow measurement at Cheverells Creek Offtake (5b) may include the construction of a new pipe offtake.

Sites currently being investigated include:

- Billabong Creek at Cocketgedong (upgrade of an existing site)
- Billabong Creek at Old Coree (i.e. just upstream of Finley Escape)
- Yanco Creek upstream of the junction with Billabong Creek (i.e. somewhere downstream of Yanco Creek @ Wiraki)
- Billabong Creek upstream of the junction with Edward River (likely somewhere between Windouran and Moulamein).



6 Part 6: Review of irrigation escape flows

This sub-project will review how a series of privately owned and operated existing irrigation escapes can be operated to best balance social, environmental, economic and cultural outcomes within the Yanco Creek system.

River operators currently have formal agreements in place enabling planned water deliveries from escapes at various mid points along the system. The review includes consideration of improved arrangements for the following:

- Finley Escape **(6a)** (owned and operated by Murray Irrigation Limited)
- Coleambally Catchment Drain **(6b)** (owned and operated by Coleambally Irrigation Co-operative Limited)
- DC800 **(6c)** (owned and operated by Coleambally Irrigation Co-operative Limited).

Part 7: Improved use of technology

Recognising the efficiencies already provided by WaterNSW's existing Computer Aided River Management (CARM*) system, this sub-project will consider how new infrastructure and the CARM technology can improve the operational efficiency of the Yanco Creek system.

It is proposed some of the new infrastructure constructed under the Yanco Creek Modernisation Project be fully integrated with the CARM system where functional and cost effective to do so.

Currently the project scope includes:

- recognition of the operational efficiencies already provided by WaterNSW through their existing CARM system
- integration of new infrastructure considered under the Yanco Creek Modernisation Project with the CARM system.

*CARM is a complex river computer program designed to help river operators deliver the right amount of water to the right place at the right time. Some benefits of the CARM system include more timely and accurate irrigation use data and more accurate streamflow requirement and flow rate estimates.

Part 8: Improved riparian management

This sub-project involves improving the management of the riparian zone (i.e the creek and neighbouring banks and floodplain), to support project objectives. This may include:

- environmental offsets
- removing flow constraints
- improving fish passage (i.e. weir removal, fish ladders)
- installing fish screens on pumps
- improving fish habitat (i.e. re-snagging)
- fencing and alternative stock watering along priority sections of the system.

Community engagement

The Yanco Creek Modernisation Project will be managed collaboratively with relevant stakeholders across the Murray-Darling Basin in New South Wales.

A Stakeholder Advisory Group has been formed to guide the project decision-making process. It includes representatives from key stakeholder groups, local landholders and Traditional Owners.

We will provide ample opportunities for local communities and stakeholders to have their say on projects throughout their stages of development and delivery, and this feedback will be used as a key input into project decision-making. These opportunities will be listed on the project webpage and on our stakeholder engagement page at industry.nsw.gov.au/water/what-we-do/stakeholder-engagement.

Engagement with First Nations people

We recognise and acknowledge the unique relationship and deep Connection-to-Country First Nations people have as the Traditional Owners and first peoples of Australia.

The Yanco Creek system commences in the traditional lands of the Wiradjuri people and flows through Bangerang, Yorta Yorta, Barapa Barapa and Wamba Wamba traditional country. The project footprint boundaries lie within the five Local Aboriginal Lands Councils of Leeton and Districts, Narrandera, Cummeragunja, Wamba Wamba and Deniliquin.

Ongoing access to water resources is essential so First Nations people can continue cultural practices and maintain their connection with the land and care for Country. We acknowledge there is much for us to learn from the perspectives, knowledge, relationships, cultural practices and environmental protocols that are alive and vibrant in First Nations communities today.

The wisdom and experience of local First Nations communities will play a critical role in informing our approach to the project and we have a dedicated engagement team who will guide our ongoing engagement with these communities.

Project timeline

Project team on-board	Completed 2020
Options developed	Completed 2020
Pilot works and options assessments	Completed 2021
Concept design	August 2022
Planning approvals	2022 - 2023
Finalise engineering	2022 - 2023
Procurement	2023
Construct and commission	2023–2024

More information

For more information on the Yanco Creek Modernisation Project:

- **visit** dpie.nsw.gov.au/yanco-creek-modernisation-project
- **email** yanco.sdlprogram@dpie.nsw.gov.au
- **call** 1300 081 047.