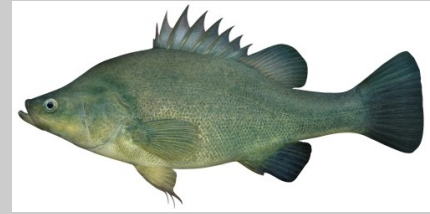


Removal of major barriers
to native fish

Regular pulse flows
through the system

Managed Floodplain
Inundations

Increase in Native Fish
populations



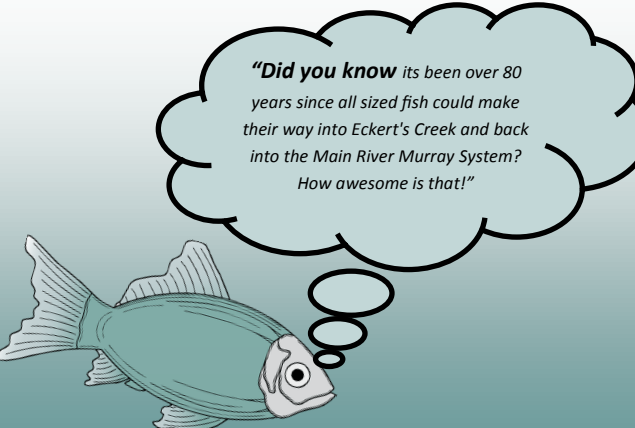
Removal of Barriers

At Katfish Reach (Demonstration Reach for native fish) work has been undertaken to remove existing barriers that were identified as a major threat to the area. These barriers have recently been removed to improve the flow of water throughout the creek system and also to allow fish to move up and down the creek to breed and to find suitable habitat.

In 2016 at one of our main inlets into Eckert's Creek, a project was conducted to remove a large cement pipe and earth embankment. There was very little water flowing into the Eckert's Creek System and impossible for fish to make their way into the creek or the river through the cement pipe.

With the development of the Bank J regulator and fish way structure, water flow down the creek system has tripled from what it was before. The fishway also allows for small, medium, and large sized fish to make their way into the creek system and also to come back through to the River Murray safely.

Our aim is to continue to remove these barriers and key threats to the Katarapko area to ensure that we have a healthy ecosystem into the future.



"Did you know *its been over 80 years since all sized fish could make their way into Eckert's Creek and back into the Main River Murray System? How awesome is that!"*



Bank J Regulator and Fishway Structure



Bank J Pipe—Before Construction

Managed Floodplain Inundations

What does this mean?

A managed floodplain inundation is a planned large scale watering event across the floodplain.

Prolonged dry conditions, river regulation and reduced frequency of natural floods has caused a decrease in the health and condition of the Katarapko Floodplain. This area is unique and special and we don't want to witness its decline, so we have come up with a solution to help build the resilience back again.

We will be installing new regulators at key locations across the floodplain which will allow us to push water out across 1,100 hectares of land. This is the equivalent to a medium-sized natural flood. A bank is also being built along parts of the access track which will hold water onto the floodplain to benefit the soil, river red gums, black box and other vegetation that are dependent on flooding.

This will be of huge benefit for the Floodplain ecology, and vegetation by having the ability manage the water level regimes and create a cycle of wetting and drying which naturally would have occurred frequently. Watering on the floodplains will improve the condition of existing floodplain flora, and support the recruitment of new cohorts of young trees such that the tree community is sustainable or resilient over the long-term. Healthy trees can also survive the dry times better than stressed trees.



Dry conditions at Katarapko 2019



Natural flood at Katarapko in 2016

Pulse Flows through Katarapko

Pulse flows is when additional flow is generated down creeks to reinstate variability in hydraulic conditions. This can be achieved by weir pool raising or by managing inlet structures and regulators within the system.

Introducing regular higher water flows through the creek systems at Katarapko will benefit the native fish. Faster flowing habitat benefits the large bodied native fish including the Murray Cod. Faster flows improve the water quality and provide a refresh for the vegetation living along the creek beds.

We hope to do a spring pulse every year to reintroduce the variability within the creeks which is what would have occurred naturally prior to the introductions of Locks and Weirs.

By raising the water levels it allows for flood runners and low lying depressions to be inundated with the rising water levels which provides habitat for bugs, frogs and birds.



Spring pulse undertaken at Katarapko in September 2018

Increase in Native Fish Population



Carp Gudgeon found at Katarapko
2018

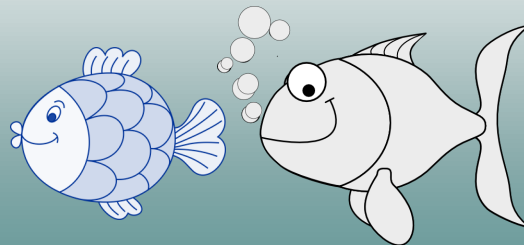


SAMDB Ecologist checking the fish
nets at Katarapko 2018

Native fish are an important element of the demonstration reach and creek systems at Katarapko. To protect and increase the number of native fish within the system we have undertaken multiple projects to improve the native fish communities.

The removal of major barriers within Eckerts creek has improved the fish passage allowing them to breed and move into different areas of the creeks and wetlands. Introducing regular pulse flows which is a cue for breeding patterns for fish which leads to increasing the fish population.

The water flow will be altered by operating the new regulators within Katarapko. Some of the regulators also have a fishway which allows for fish of all sizes to pass through the system and back out to the River Murray. Water flow regulation has been improved at Katarapko with the support of the structures in place. This has also improved the connectivity between the River Murray and the anabranch systems.



Acknowledgements



Government
of South Australia



Natural Resources
SA Murray-Darling Basin

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