A project monitoring fish movement at Hattah Lakes will provide valuable information about how pest fish respond to water flowing in and out of wetlands.

Common Carp (Cyprinus carpio) (known as carp) are pest fish species that threaten the health of important wetlands at Hattah Lakes. A project monitoring fish movement in response to water moving in and out of wetlands is being undertaken. This will improve understanding and knowledge of the way fish respond to varied water levels.

The long term aim of this program is to contribute to improving the health of important wetlands at Hattah Lakes, by reducing the impacts of carp.

**Pest species: common carp**

Carp can swiftly alter wetland ecosystems by stirring up lakebed sediments, which increases turbidity and degrades water quality. Carp can uproot and eat submerged native vegetation and can quickly adapt to changed environments, outcompeting native fish.

**At a glance**

This program will:
- Improve control measures of carp populations at Hattah Lakes
- Develop an understanding of fish movement in semi-arid floodplain wetland systems
- Improve the health of wetlands at Hattah Lakes
**Past carp populations**

Carp access wetlands at Hattah Lakes when creeks and floodrunners become connected to the Murray River.

It is anticipated that managed watering events may be useful in controlling/removing carp populations. When environmental water was delivered to Hattah Lakes (between 2005 and 2010) during drought conditions, the proportion of carp was considerably lower than during periods of high flows (such as the flood in 2010–11). This was possibly due to a combination of screens that were established and the pumping mechanisms used that prevented large bodied fish from travelling into the Hattah Lakes system.

It is anticipated that improving our understanding of carp movement in response to varied water levels, will provide valuable information about how water levels can be managed to control and/or remove carp populations from the system.

**The monitoring program**

Monitoring carp movement at Hattah Lakes is being undertaken by the Murray–Darling Freshwater Research Centre. As part of this program, 48 large carp have been captured, surgically implanted with tracking devices and released back into the system. While carp are not normally released back into the wild, these fish are part of a scientific experiment which will track their movement in response to water level changes.

Listening stations have been deployed at key locations throughout the system. The tracking devices implanted in each fish emit a signal which can be picked up by the listening stations. The listening stations detect the tracking device signal when a fish swims past, providing valuable information about fish movement.

Data from this program will be analysed to understand where and when carp are located in the system in relation to water flowing in and out of wetlands.

**Future carp control measures**

Initially the knowledge developed through this monitoring program will be used to inform control (or removal) of carp at four of the southern wetlands at Hattah Lakes. If successful, it is anticipated that these methods could be used more broadly throughout the Murray–Darling Basin.

**Acknowledgements**

This project is supported by the Mallee Catchment Management Authority, through funding from the Australian Government.

This project is being delivered in partnership with Parks Victoria.

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**Project Partners**