

Downstream fish movement in South Australia

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State Policies

There is no state policy specifically on downstream movement of fish in SA. For general issues regarding fish passage, we follow the National Guidelines.

Research and Structures

To date, there has been little research dedicated to downstream fish migration in SA. Studies on fish passage in-stream and off-channel are relatively our recent venture. Most of the technical fishways/structures were designed to facilitate upstream movement.

A few recent or ongoing projects related to downstream movement:

- SARDI - Murray barrage fish passage assessment project funded by MDBC - As downstream migration can be an important issue at the Murray barrages especially during the periods of low flow when all the barrage gates remain shut, specific experiment will be designed as part of the program to address downstream movement issue particularly for the estuarine and diadromous species.
- University of Adelaide - A current project funded by the Torrens Catchment Water Management Board, undertaken by the fourth-year students from the School of Civil and Environmental Engineering, jointly supervised by Martin Lambert and Keith Walker. The project is concerned with re-designing the Torrens Outlet Weir to allow fish movements to and from the sea at Henley Beach, which is directed specifically at promoting passage for galaxiids (*Galaxias maculatus*) and lampreys.
- Australian Landscape Trust collaborating with NSW Fisheries - A recently completed project funded NHT on off-channel fish movement. The monitoring was conducted over a 2-years period on fish movement at 8 lower Murray wetlands over a range of flows and structure types. The main outcome from the project was that there was no inhibition to movement into wetlands at any of the structures studied - movement with the flow; however, movement against the flow was

significantly inhibited at 3 of the 6 structures. The study also investigated the diel patterns and water quality cues that may trigger fish movement.

- Report (2001) to Wetland Care Australia by Dr. Martin Mallen-Cooper - Fish passage in off-channel habitats of the lower River Murray. Recommendations for fish passage friendly culverts should facilitate both in and off wetland movement.

Although most of the structures are relatively lower weirs in SA, many of the problems in downstream movement of native fish in eastern states are also encountered in SA. However, we would like to stress that Lakes and Coorong is a special case where many migratory fish species need free passage (both upstream and downstream) to complete their life cycle. Consideration needs to be given to this case as a high priority. Overall, there is an urgent need for dedicated research in order to understand and assess the scope of impacts, and develop mitigation strategy for the rehabilitation of native fish populations.