

The Inland Waters and Catchment Ecology (IWCE) program provides scientific and technical advice across government, industry and the community for the conservation, management and rehabilitation of inland waters, estuaries and catchment ecosystems. These include developing our understanding of ecosystem processes, ecology and population dynamics of the freshwater and estuarine fishes, molluscs and crustaceans, ecology of freshwater and riparian vegetation, impacts of drought on aquatic habitats and biota and post-drought recovery, environmental water requirements, and ecology and management of invasive species.

### Overview

The IWCE Program was established in July 2005. Included are four subprograms: Fish Ecology, Plant Ecology, Invasive Species, and Climate and Catchment. Through projects, we have established close links and collaborations with state and federal agencies, local universities, and community groups including the Murray-Darling Basin Authority, CSIRO Land and Water, Primary Industries & Regions South Australia (PIRSA), Department for Water, Department of Environment and Natural Resources and regional Natural Resources Management Boards. We are also a research partner for the [Goyder Institute](#) for Water Research. Currently the Program has 22 staff.

### Fish Ecology Subprogram

Undertakes applied research on the ecology of freshwater and estuarine fishes that is relevant to natural resource management (NRM). The subprogram conducts a range of projects relating to fish movement/migration, the facilitation of fish passage, flow related ecology and the habitat requirements of freshwater and estuarine fishes. A current tri-state collaborative project "Murray River Fishway Assessment Program" is the largest freshwater ecological restoration project undertaken in Australia.

### Plant Ecology Subprogram

Conducts a wide range of research projects relating to the ecology of aquatic and riparian vegetation including impacts of altered hydraulic regimes, environmental water requirements, impacts of increased salinity, effects of engineered flooding, impacts of drought on aquatic ecosystems, baseline vegetation surveys and condition and intervention monitoring.



### Invasive Species Subprogram

Conducts research and provides practical advice to river managers and key stakeholders regarding the distribution, abundance, ecological impacts and management of invasive freshwater fishes such as common carp. SARDI is a partner of the Invasive Animals CRC through this subprogram.

### Climate and Catchment Subprogram

Provides scientific and technical advice to underpin the sustainable management of catchment ecosystems in southern Australia in the context of climate change and other pressures. The subprogram aims to conduct research on the drought and climate impacts on the freshwater and estuarine biodiversity, synthesise relevant knowledge and develop system understanding to support NRM. A recently completed large multi-disciplinary project; Coorong, Lower Lakes and Murray Mouth (CLLAMM) ecology involves collaboration with CSIRO, local universities and agencies to study ecological processes and key biota responses to water management in the Coorong, Lower Lakes and Murray Mouth. This subprogram also has a strong link with the eWater CRC.



## **Dr Qifeng Ye Science Leader**



Dr Qifeng Ye has a range of skills and extensive experience in fish and fishery biology, ecology and population dynamics

accumulated through 20 years of environmental and fishery related work. This has been done in freshwater, estuarine and marine systems, in several countries. She has written many publications including journal papers, book chapters, articles and technical reports and presented her research work at national and international conferences.

After completing her Ph.D in Fish Ecology and Fisheries Science in the USA, Dr Ye joined SARDI as a senior scientist in 1998, leading a Fisheries Research & Development Corporation (FRDC) funded three year research project addressing the fishery biology and habitat ecology of southern sea garfish in southern Australia.

Since 2001, she has been the senior scientist and leader of the Inland Waters research team. In the last few years, Dr Ye has successfully attracted multi-million dollar research grants and grown the team into a significant research Program. She is currently the Science Leader for IWCE. Dr Ye has been a key scientist in a number of state and national collaborative projects on fish biology and ecology.

Dr Ye represents SA on the Murray Darling Basin Authority (MDBA) Native Fish Advisory Panel. With her professional and technical skills, she is also a current member of a number of NRM and science committees such as MDB Murray Cod Task Force, Sustainable River Audit (SRA) Fish Technical Advisory Group, CLLAMM Science Advisory Group and the Murray Futures CLLAMM Long Term Plan Reference Group.

### **Contact**

Dr Qifeng Ye, Science Leader

Tel: +61 08 8207 5447 Fax: +61 08 8207 5481

PO Box 120, Henley Beach, SA 5022

E-mail: [qifeng.ye@sa.gov.au](mailto:qifeng.ye@sa.gov.au)

[www.sardi.sa.gov.au](http://www.sardi.sa.gov.au)