

Science, Technology and Engineering

Research in The Murray-Darling Freshwater Research Centre

The Murray-Darling Freshwater Research Centre (MDFRC) was established in 1986 and has grown to become one of Australia's leading sources of scientific advice on freshwater ecological systems.

The Mission of the MDFRC is the generation, synthesis and communication of freshwater ecological science fundamental to protection and enhancement of the natural assets of the Murray-Darling Basin while supporting sustainable use of the Basin.

Our science supports governments, land and water resource managers, the water industry and the community in making informed decisions for future management of the Basin.

The MDFRC is a joint venture between La Trobe University, CSIRO and the Murray-Darling Basin Authority, with laboratories located on the Albury-Wodonga and Mildura campuses of La Trobe University. Research staff have close collaborative relationships with La Trobe staff from the Department of Environmental Management and Ecology on the Albury-Wodonga campus.

Staff research areas



Dr Darren Baldwin
Aquatic biochemistry (Wodonga)

Examination of the effects of human activities on the way nutrients and energy move through aquatic ecosystems, particularly wetlands, floodplains and reservoirs. Current interests include hyper-drought and wetland acidification.



Dr Mark Fraser
Aquatic biochemistry (Wodonga)

Restoration and management of inland wetlands, focussing on the role of sulfidic sediments in the development of potential acid sulfate soils and the implications for ecosystems at risk of this type of environmental degradation in the Murray.



Dr Ben Gawne, Director
Freshwater ecologist (Wodonga)

Aquatic ecosystem function including primary production, decomposition and the movement of organic matter through aquatic food webs. Effects of management on aquatic ecosystems, particularly flow regulation.



Dr Sally Hladyz
Aquatic food web ecologist (Wodonga)

Ecosystem functioning, freshwater food webs and interactions between terrestrial and freshwater ecosystems. Effects of changing flow on biological interactions and trophic interactions in lowland river systems.



Dr Giri Kattel
Aquatic ecologist (Mildura)

Limnological and palaeolimnological investigations of lakes and floodplain ecosystems, ecology of microinvertebrates including the role of fossil Cladocera (water fleas) and ephippia (the thick shell that protects the winter eggs of a cladoceran) in reconstruction of climate change, land use and cultural development.



Dr Bernard McCarthy
Invertebrate ecologist (Mildura)

Crayfish biology and ecology, the effects of changes in flow on riverine and wetland ecology, particularly the effects of weir pools in the Mallee.



Dr Daryl Nielsen
Invertebrate ecologist (Wodonga)

Ecology of aquatic invertebrates and plants in rivers and wetlands and the effects of flow on community ecology. Interested in the role of eggs and seeds within sediments in sustaining healthy plant and animal communities.

Science, Technology and Engineering



Dr Amina Price
Fish ecologist (Wodonga)

Fish and shrimp ecology, recruitment ecology, riverine landscape ecology, interactions between flow, habitat and aquatic biota in rivers and wetlands of the Murray-Darling Basin.



Dr Gavin Rees, Assistant Director
Microbiologist (Wodonga)

Ecology of aquatic micro-organisms, including bacteria and fungi and the way in which they influence water quality and flow-related ecological processes. The role of micro-organisms in determining nutrient cycles and floodplain ecology.



Dr Rick Stoffels
Fish ecologist (Wodonga)

Experimental, descriptive and modelling approaches to improve our understanding population structure and dynamics, Flow-demography relationships in freshwater fishes. Bioenergetics of freshwater fishes. Population biology of freshwater fishes.



Dr Lorenzo Vilizzi
Fish ecologist and statistician (Mildura)

Modelling and statistical evaluation of fish-habitat relationships in riverine and wetland habitats. Conservation of native fish. Ecology of fish recruitment through a variety of interpretation methodologies and analysis.



Dr Todd Wallace
Aquatic ecologist (Mildura)

Todd is the Officer in Charge of the Lower Basin laboratory with interests in the effects of flow regulation on the ecology of riverine and floodplain habitats, particularly the effects on water quality and fish communities.



Dr Susanne Watkins
Wetland ecologist (Wodonga)

Wetland ecology including invertebrate community dynamics and the influence of flow modification, land use and riparian vegetation on food webs and wetland ecology.



Dr Jessica Wilson
Biogeochemist (Wodonga)

Water and soil quality, ecological assessment, flow-related ecological processes, biogeochemistry of soils and sediments.

Further Information

For further information about undertaking a research degree or to discuss collaboration with researchers within The Murray-Darling Freshwater Research Centre, please contact:

The Murray-Darling Freshwater Research Centre

T: (+61 3) 5051 4050 (Mildura)

F: (+61 3) 5023 6248 (Mildura)

T: (+61 2) 6024 9650 (Wodonga)

F: (+61 2) 6059 7531 (Wodonga)

E: info@mdfrc.org.au

W: www.mdfrc.org.au

Last updated: 11/08/2009

