

Two PhD opportunities in prawn biology, genetics and algal nutrition in the Swan-Canning Estuary, Western Australia



Murdoch University, together with the Challenger Institute of Technology, are looking for two motivated PhD candidates to work on a Fisheries Research and Development project entitled "Stock enhancement of the Western School Prawn (*Metapenaeus dalli*) in the Swan-Canning Estuary; evaluating recruitment limitation, environment and release strategies". The Western School Prawn is key recreational species and fishing for this crustacean in the Swan-Canning Estuary was an integral part of Perth culture. However, in recent years, the numbers of this species have declined. This project will underpin current stock enhancement efforts and generate key information on the biology, genetics and larval growth and nutrition of this species. The outcomes of this project will be crucial for any future stock enhancements and ecosystem based fisheries management.

The specific objectives of the project are as follows:

- Evaluate the current stock status and factors affecting the natural recruitment of Western School Prawns in the Swan-Canning Estuary (PhD 1).
- Evaluate the population genetics of the Western School Prawn and the genetic consequences of stock enhancement in the Swan-Canning Estuary (PhD 1).
- Optimise release strategies (*i.e.* stocking densities, size and location at release) for Western School Prawns (PhD 1).
- Record the larval development of Western School Prawns (PhD 2).
- Bioprospecting and culturing local algal strains (PhD 2)
- Conducting feeding trials on larval Western School Prawns (PhD 2).
- Determine biochemical composition of selected algal strains (PhD 2).

These PhD projects will be supervised by Professor Neil Loneragan and Drs James Tweedley, Navid Moheimani and Jennifer Chaplin.

Candidates must be eligible for admission to the domestic PhD program at Murdoch University (<http://our.murdoch.edu.au/Research-and-Development/Funding-and-scholarships-opportunities/Scholarships-opportunities/Domestic-Sship/>), have undergraduate training in a relevant biological or environmental discipline and hold a current drivers licence. Preference will be given to those applicants with experience in estuarine ecology or fish/prawn biology and genetics for PhD 1 and those with a background in microbiology for PhD 2.

Interested applicants should send their CV, along with a brief (< 1 page) summary of their relevant qualifications and interest in the project, stating which PhD they are interested in, and contact details of two academic referees, to Dr James Tweedley (j.tweedley@murdoch.edu.au) ASAP (preferably by 31st May 2013). The project will start in July 2013.

The successful applicants will receive a scholarship worth \$24,653 per annum and will be eligible to apply for top-up funds. The project is funded by the Fisheries Research and Development Corporation and the Swan River Trust and this will cover all operating expenses. Additional in-kind assistance will be provided by Murdoch University, the Challenger Institute of Technology and the Swan River Trust.