

PhD Scholarship: Advancing fish-protection screening at Australian water diversions



Project description:

In the Murray-Darling Basin (MDB), many millions of fish are extracted from rivers annually through pumps and gravity fed diversion canals. This is a huge concern for fisheries managers because, if unaddressed, it will continue to hamper the recovery of native fish populations that is being targeted by other river health initiatives such as instream habitat rehabilitation, fishway construction and environmental flow delivery.

Fish-protection screens can stop fish and debris entering pumps and diversions, and they are widely used overseas, where they save millions of native fish annually and improve water delivery efficiency. Although manufacturers are ready to construct fish-screens for the local market, there are no national guidelines on their design and installation to protect Australian species. Furthermore, broad-scale uptake of screening will be hampered by the fact that NRM bodies and water users currently have low awareness of the international state-of-the-art in screening technologies and are requesting further local evidence of their performance.

For this PhD project we are seeking a candidate to be part of a multi-disciplinary team of CSU and NSW DPI ecologists, engineers, economists and science communicators who are working to develop Australia's first fish-screening program by evaluating pilot projects in NSW, developing Australian screening design guidelines, building awareness and ensuring screening programs are underpinned by rigorous science.

The candidate will have the ability to develop cutting-edge research as part of this R&D program on a topic with limited established local expertise and will have the capacity to greatly influence future fisheries management through south-eastern Australia whilst interacting with international experts. The candidate will have access to state-of-the-art field equipment, research laboratories and hydrodynamic flumes through both CSU and NSW DPI. Under the mentorship of highly qualified researchers, the candidate will be supported in their continued training as a researcher and will gain exposure to researchers and employment opportunities across the academic, public and private sector, both in Australia and internationally.

The preferred candidate:

Prospective candidates will need to apply via a competitive process. You will require either a First Class Honours or a Masters degree with a research component or many years experience in research with a strong track record of publication. It is also desirable if you: have a background in ecology or engineering; are independent; have excellent writing skills with a track record of publication; have an interest in the subject matter; and are enthusiastic about working in a dynamic interdisciplinary environment.

Place of Employment and Place of Work:

The candidate will be enrolled in the Institute of Land Water and Society at the Albury-Wodonga Campus of Charles Sturt University under the supervision of Associate Professor Lee Baumgartner. The primary place of employment will be at the Port Stephens Fisheries Institute (NSW DPI Fisheries' primary research institute) under the supervision of Dr Craig Boys. Fieldwork will be essential to various screening pilot sites across NSW, with capacity to utilise laboratory facilities at the Albury campus, at PSFI and a northern Victoria Flow Lab as required.

Salary:

Stipend: \$30,000 (tax free) per year over 3 years with generous support in the form of operational expenses and technical staff assistance that exceeds typical university scholarships. There will be the potential to supplement the stipend by undertaking a limited amount of casual work on related fisheries projects to diversify skills, but this must be in accordance with the universities employment rules for scholarship students.

Selection Criteria:

Applications are assessed against [three key areas](#):

Previous Academic Performance: (70% of the assessment). This assessment considers the nature and level of the applicant's highest, relevant qualification and grade point average.

Research and/or Professional Experience: Evidence of an applicant's research achievements and relevant professional experience (15% of the assessment). This includes such aspects as peer-reviewed research outputs, high esteem academic awards and prizes, relevant research or professional experience.

Research Alignment and Supervisor Capacity at CSU: Alignment with strategic research priorities and strengths contributes up to around 15% of the assessment. This includes the strength of alignment with the [CSU Research Narrative](#); the supervisory capacity and the strength of the research environment within the field of research; and the expected impact and end user engagement of the proposed research.

Commencement: Starting date will be 15th July 2019 (Session 2).

Expressing an interest:

Applicants will need to [apply for enrolment](#) and also send an expression interest (including a full CV and a brief cover letter of no more than two pages) outlining your experience and research interests to Dr Craig Boys, NSW Department of Primary Industries (craig.boys@dpi.nsw.gov.au; 02 4916 3851), and cc'd to Dr Lee Baumgartner, Charles Sturt University: email: lbaumgartner@csu.edu.au; phone: 02 6051 9271).

Closing Date: The closing date for applications (including enrolment application, CV and expression of interest) is Thursday 16th May 2019. Interviews will be held within two weeks of the closing date.