EDITH COWAN UNIVERSITY

PROJECT DETAILS

Project Title:

Little Fishes, Big Problems: Using Genomics to Inform Conservation and Management of Pygmy Perches

Project Summary:

This project aims to generate and apply high-throughput genomic resources (including reference genomes, whole genome resequencing and genotype-by-sequencing data) to inform conservation actions for two freshwater fish species endemics to south-western Australia: The Critically Endangered *Nannoperca pygmaea* and cryptic species complex *N. vittata*. By assessing genetic diversity, population structure, and connectivity, the project will guide the design of captive breeding programs, conservation reintroductions, and water management strategies. This collaborative research program will directly inform conservation actions and water management in the region to support evidence-based conservation and long-term resilience of aquatic biodiversity in the region.

Preferred Applicant Skillset:

The preferred applicant should have a relevant tertiary qualification in science, including a postgraduate (Honours or Masters) degree in genetics, genomics or molecular biology. They should have experience in molecular laboratory techniques, including DNA extraction, and some experience with handling and applying genetic or genomic datasets in ecology or evolution. The ideal applicant will also have experience with bioinformatic pipelines and computational analysis, including skills in one of Unix, bash, Python or R. The applicant should also have strong written science communication skills and be proficient in English.

Internship opportunity:

Yes – bioinformatic components (such as assembly of reference genomes) of the project would be suitable for a Pawsey Summer Internship Project to support candidate skills development and research collaboration (https://pawsey.org.au/supercomputing/training/summer-internships/)

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